Insert in binder in place of "General Index For 1938"

General Index

For 1941

Western Railroad Supply Company Catalog

REVISED TO JUNE 1, 1941

To Include First Supplements

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Section

A

Model 5 Magnetic Autoflag Highway Crossing Signals

WESTERN RAILROAD SUPPLY COMPANY

MANUFACTURERS

General Offices and Factory

2360 South Ashland Avenue

Chicago, Illinois

●

District Offices in

New York, N. Y.
Denver, Colo.

St. Louis, Mo.

Cleveland, Ohio
Houston, Tex.

Printed in U.S.A.

1937

Model 5 Magnetic Autoflag

GENERAL INTRODUCTION

The operating mechanism of these signals is a very simple magnetic movement, consisting of two electro-magnets mounted on the upper end of the banner rod and one supported directly above the rocker shaft. The two moving magnets are mounted at an acute angle from the vertical. By means of a simple and reliable circuit selector, energy is applied to the magnet coils so as to cause the stationary and one of the moving coils to attract each other, causing one of the moving magnets to draw up under the stationary magnet, thus forcing the banner to one side. The circuit selector is actuated by this movement, closing the opposite contact which energizes the opposite moving coil so that it will be attracted to the stationary coil, thus the banner is forced in the opposite direction. This alternate action of the electro-magnets causes the banner to swing at a true pendulum speed through an arc of approximately 45 inches.

On succeeding pages are shown typical assemblies of various styles of Two Position and Disappearing Banner Type Autoflags.

Two Position Autoflags may be obtained for center or side of street installation with diamond-shaped channel iron supporting frame, which mounts on the top of a pipe post and encloses the banner, or with angle iron brackets for mounting on the side of a pipe post.

Unless otherwise specified the banners of all Two Position Autoflags are stenciled in accordance with A.A.R., Signal Section, Drawing Number 1553, with black border and striping on white background. Any special marking will be furnished to order.

The standard banners for all Two Position Autoflags are equipped with 6⅜" diameter, red spread light lenses with a specially designed lamp housing which provides for adjustment of each light beam through six degrees vertically and twenty degrees horizontally either side of center, always keeping the lenses in focus with the normal lamp. This permits alignment of the light beams to compensate for curves or grades in the highway.

A reserve lamp is mounted above and in close proximity to the normal lamp and a light-out relay, mounted in the mechanism case, causes the reserve lamp to burn in case of failure of the normal lamp.

The Two Position Autoflags can be arranged with flashing contacts so that the red lamp in the banner will flash alternately as the banner swings, giving an indication similar to that of the standard flashing light signal.

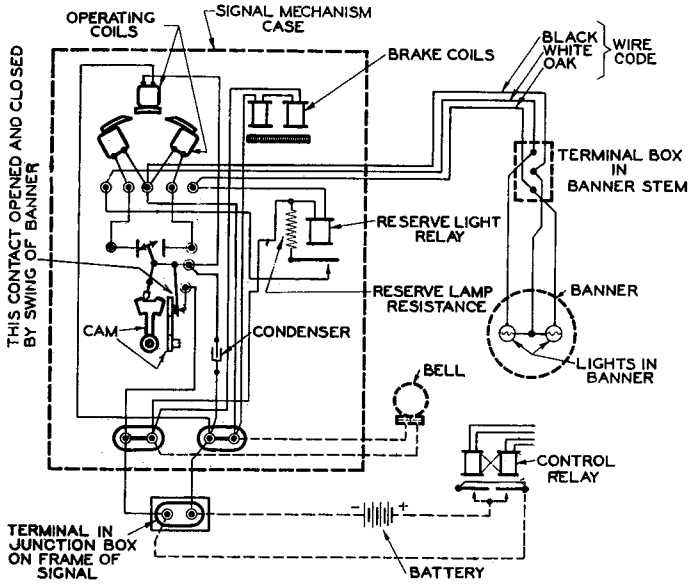
Disappearing Banner Type Autoflags are furnished with either a short or a long angle iron bracket, as required.

The banner-shields of the Disappearing Banner Type Autoflags are usually stencilled LOOK LISTEN but are furnished with other markings to specification.

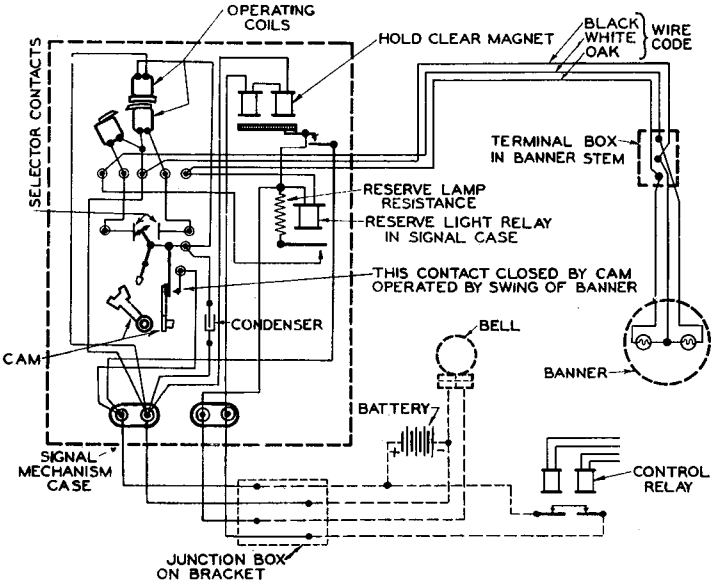
There are three standard banners available for use on the Model 5 Disappearing Banner Type Autoflag. A banner painted after the A.A.R. standard design of black cross and border on a white background is available. This banner is only 15" in diameter and is furnished with red spreadlite lenses, 5⅜" in diameter by 3½" focus. The other two standard banners are painted red with the word STOP stencilled in white letters. They are furnished with 18" discs and red spreadlite lenses 5⅜" in diameter. The difference between these two red banners is that one has lenses with a focal length 3½" whereas the other has a 2½" focus.

All three banners are provided with reserve lights.

Typical Wiring Diagrams For Model 5 Autoflag



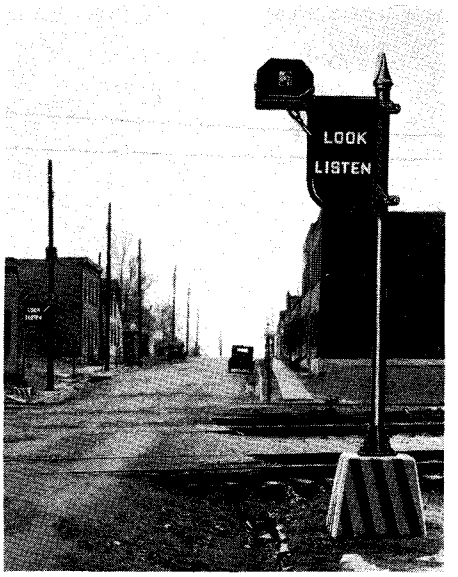
Circuit Diagram for Standard Two Position Autoflag for D. C. operation with one reserve light control unit.



Circuit Diagram for Standard Disappearing Banner Type Autoflag for D. C. operation.

Disappearing Banner Type
Model 5 Autoflag

Long Bracket Type



Short Bracket Type

The Disappearing Banner Type Autoflag operates on the closed circuit principle, i.e. the banner, when not in operation, is held in the clear position between concealing shields by electrical energy. Should there be a failure in the operating current, the banner drops by gravity to the "STOP" position.

This Disappearing Banner Type Autoflag is designed to be placed at the side of the road, with the banner overhanging the roadway, plainly visible to approaching traffic.

The light in the banner is accompanied by a reserve light which will burn through a light out relay in the case of a burned out filament in the normal lamp.

The Disappearing Banner Type Autoflag is the only signal approved for use in the Dominion of Canada.

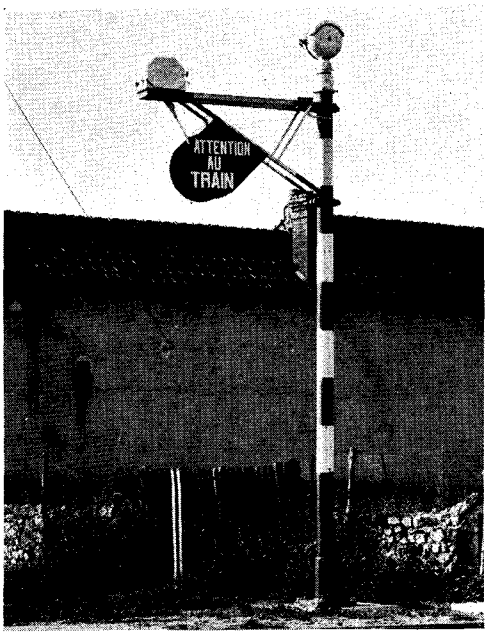
This signal is still one of the most popular types, because:

1—It commands attention by its swinging motion.

2—It operates on the closed circuit principle.

3—It has a reserve light and light out relay to preclude the probability of a dark signal.

Disappearing Banner Type
Model 5 Autoflag



Autoflag with wording in French.
In service near Moulins, France.

Autoflag used as warning at Fire Station.
In service in Chicago, Ill.

The shields which conceal the banner are painted black with letters stencilled in white. Unless otherwise specified, the stencilling will read LOOK LISTEN. As can be seen from the photographs above any type of wording can be furnished on the shields.

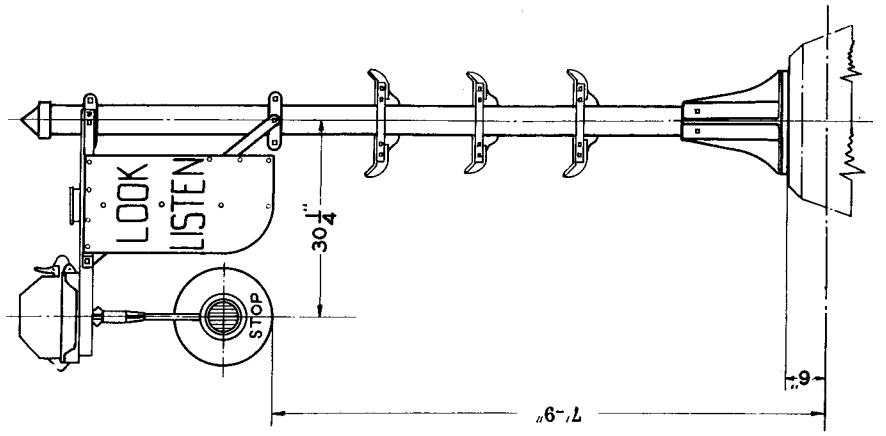
The Disappearing Banner Type Autoflag is furnished in two styles; the long bracket type and the short bracket type as illustrated on the preceding page.

Bells may be mounted on top or side of the signal pole as may be specified. Similarly any type of sign may be applied to the side of the signal pole. (Bells are shown in Catalog Section B; Signs in Section H.)

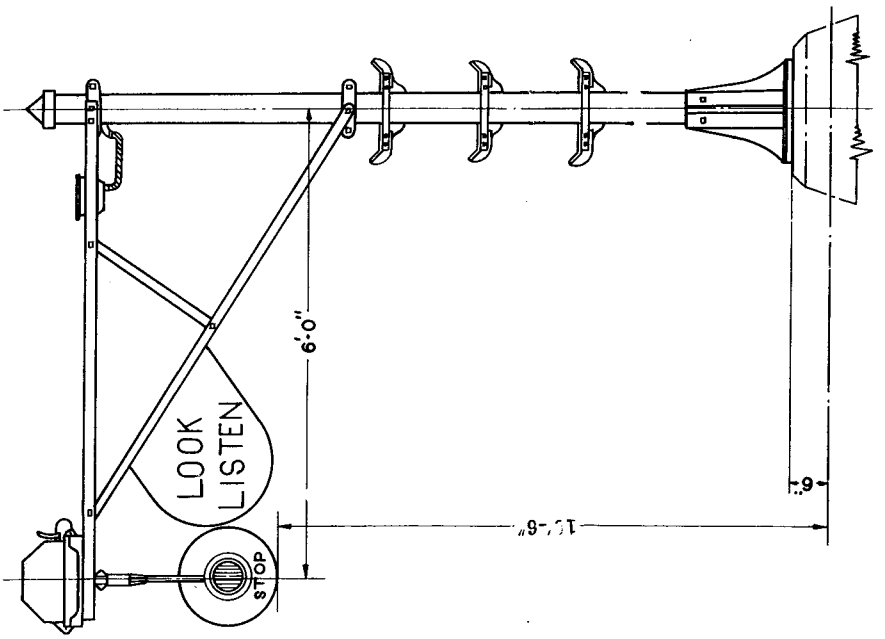
The banners used on the Disappearing Banner Type Autoflag can be furnished with any wording or painting specified. However, three types of banners have become standard in use. A banner with a fifteen-inch disc painted white with a black cross and border similar to the A.A.R. Standard Banner used with the Two Position Signals is furnished with 5⅜" diameter red spreadlite lenses with a 3½" focus. An eighteen-inch disc banner painted red with the word STOP stencilled in white letters is available with 5⅜" diameter red spreadlite lenses with a focul length of either 2½" or 3½" as specified. When ordering Disappearing Banner Type signals be sure to specify type of banner desired.

Disappearing Banner Type
Model 5 Autoflag

For ordering references see following page.



Short Bracket Type
Ref. 5 and 6 complete with pipe post
Ref. 7 and 8 complete less pipe post



Long Bracket Type
Ref. 1 and 2 complete with pipe post
Ref. 3 and 4 complete less pipe post

WESTERN RAILROAD SUPPLY COMPANY

Disappearing Banner Type Model 5 Autoflag

Mechanism will be furnished for operation on 8-10 volts d.c. and for lamps with rating of 8 v. 10 w. unless otherwise specified.

Dimensions shown can be varied to meet particular requirements.

Specify type of banner desired. (See General Introduction and descriptive matter on Plate A15.)

ORDERING REFERENCE

Specify Plate Number A20, Reference Number and Description

Ref. No.	Description	Drawing Ref.
	Long Bracket Type	
1	Disappearing Banner Long Bracket Type Model 5 Autoflag complete with 4″ I.D. pipe post (Specify type of banner)	0500–501
2	Disappearing Banner Long Bracket Type Model 5 Autoflag complete with 5″ I.D. pipe post (Specify type of banner)	0500–502
3	Disappearing Banner Long Bracket Type Model 5 Autoflag Assembly complete for mounting on 4″ I.D. pipe (Includes mechanism, banner, shield and bracket) (Specify type of banner)	0500–503
4	Disappearing Banner Long Bracket Type Model 5 Autoflag Assembly complete for mounting on 5″ I.D. pipe (Includes mechanism, banner, shield and bracket) (Specify type of banner)	0500–504
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6	Disappearing Banner Short Bracket Type Model 5 Autoflag complete with 5″ I.D. pipe post (Specify type of banner)	0500–506
7	Disappearing Banner Short Bracket Type Model 5 Autoflag Assembly complete for mounting on 4″ I.D. pipe (Includes mechanism, banner, shield and bracket) (Specify type of banner)	0500–507
8	Disappearing Banner Short Bracket Type Model 5 Autoflag Assembly complete for mounting on 5″ I.D. pipe (Includes mechanism, banner, shield and bracket) (Specify type of banner)	0500–508
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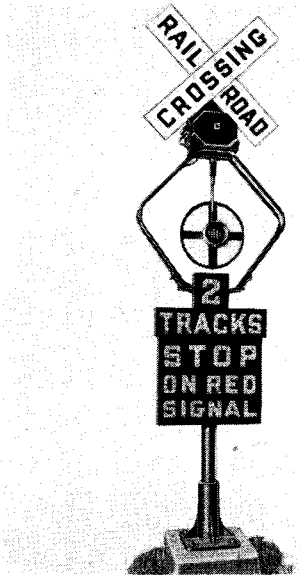
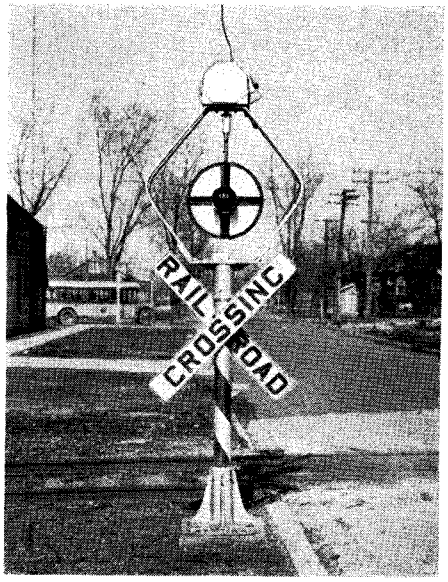
10	A. A. R. Type Banner for Disappearing Banner Type Autoflag	0500–259
10a	Red STOP Banner, 18″ dia., with 2½″ focus spreadlite lenses	0500–260
10b	Red STOP Banner, 18″ dia., with 3½″ focus spreadlite lenses	0500–260A
11	Long Bracket for Disappearing Banner Type Autoflag for mounting on 4″ I.D. pipe	505–1
11a	Long Bracket for Disappearing Banner Type Autoflag for mounting on 5″ I.D. pipe	505–2
12	Short Bracket for Disappearing Banner Type Autoflag for mounting on 4″ I.D. pipe complete with shields	0500–60A
12a	Short Bracket for Disappearing Banner Type Autoflag for mounting on 5″ I.D. pipe complete with shields	0500–60
13	Shield for Long Bracket Disappearing Banner Type Autoflag stencilled LOOK LISTEN unless otherwise specified for 2½″ focus banners	0500–50
14	Shield for Long Bracket Disappearing Banner Type Autoflag stencilled LOOK LISTEN unless otherwise specified for 3½″ focus banners	0500–277

For replacement parts for mechanism see Plates A42 through A46. Detailed plans for other replacement parts furnished on request.

Two Position Type Model 5 Autoflag

CENTER OF STREET TYPE





Although the present tendency is away from locating signals in the center of the street, certain grade crossings are so located that center of street type signals are necessary. Besides, many railroads prefer this type of signal installed at the side of the road.

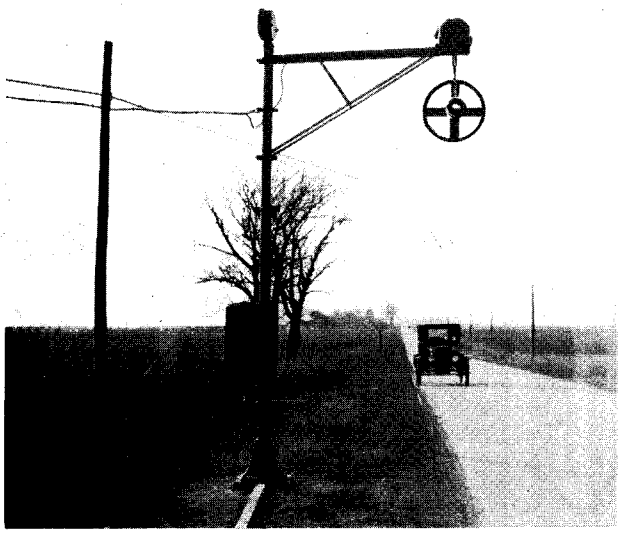
The signal pictured at the left is the U. S. Bureau of Public Roads Standard. In this signal the lamp in the banner flashes alternately as the banner swings, giving an indication similar to that of the standard flashing light signal.

The signal shown in the photograph at the right is a typical two position signal equipped with ordinary cross buck railroad crossing signs. These signs may also be mounted above the mechanism case to meet A.A.R. standard requirements of height. The banners shown above are the A.A.R. standard although any type banner may be furnished to specification.

Although no bell is shown in the two photographs, bells may be mounted either on the side of the signal pole or on top of the mechanism cover. Type 222 Bell, shown in Catalog Section B, has proved extremely popular in such signal assemblies.

Two Position Type Model 5 Autoflag

SIDE OF STREET TYPE



Pictured above is a typical two position side of street type Autoflag. Aside from the fact that the waving banner and red light give a striking indication of danger, this signal is very popular because the banner itself is over the highway in the line of vision of the driver of a vehicle while the signal mast is clear of the roadway out of danger of being struck.

In this particular assembly a relay box is included. If desired a base of mast case may be furnished (See Catalog Section E) instead. The bell shown mounted on top of the pole in the photograph may also be mounted on the side of the pole if preferred. Any of the various signs shown in Catalog Section H may be mounted on this signal.

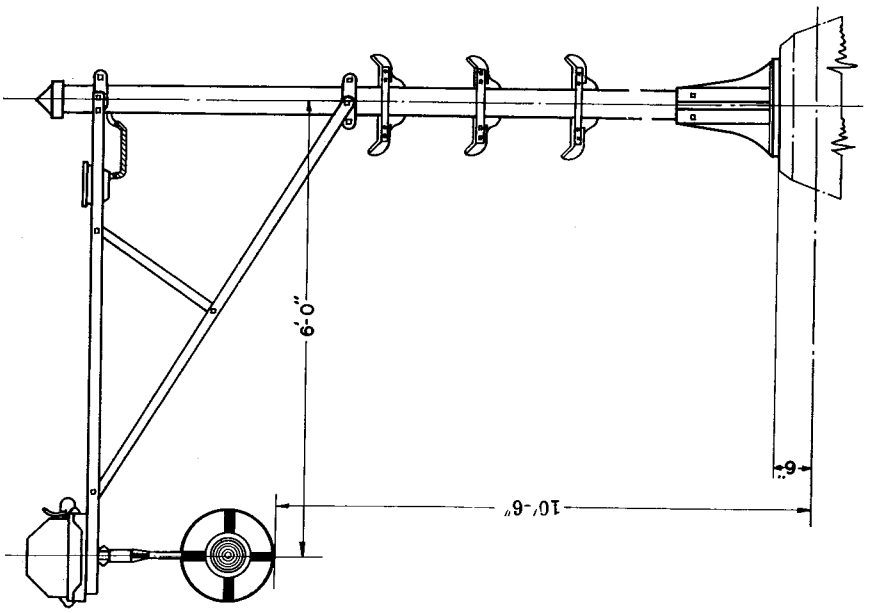
The banner shown conforms to A.A.R. specifications with a black cross and border on a white background. Any other banner may be furnished to specifications. Standard banners include reserve lights so that in the case of a lamp failure the reserve lamp will automatically burn through a light out relay.

If desired this signal can also be furnished with flashing contacts so that the light in the banner will flash alternately as the banner swings, thus giving an indication similar to that of the flashing light signal.

WESTERN RAILROAD SUPPLY COMPANY

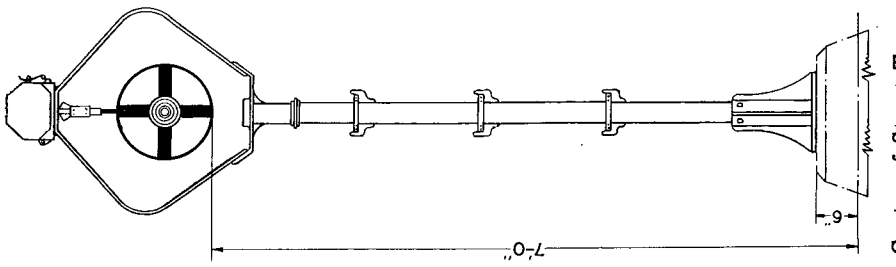
Two Position Type
Model 5 Autoflag

For ordering reference see following page.



Side of Street Type

Ref. 5 and 6 complete with pipe post
Ref. 7 and 8 complete less pipe post



Center of Street Type

Ref. 1 and 2 complete with pipe post
Ref. 3 and 4 complete less pipe post

WESTERN RAILROAD SUPPLY COMPANY

Two Position Type Model 5 Autoflag

Mechanism will be furnished for operation on 8-10 volts d.c. and for lamps with rating of 8 v. 10 w. unless otherwise specified.

Dimensions shown can be varied to meet particular requirements.

Banner furnished will be A.A.R. Standard 20″ disc painted with black cross and border on white background with 6⅜″ dia. by 3½″ focus red spreadlite lenses.

These type signals can be furnished with flashing contacts so that the lamp in the banner will flash alternately as the banner swings. Detail plans furnished on request.

ORDERING REFERENCE

Specify Plate Number A35, Reference Number and Description

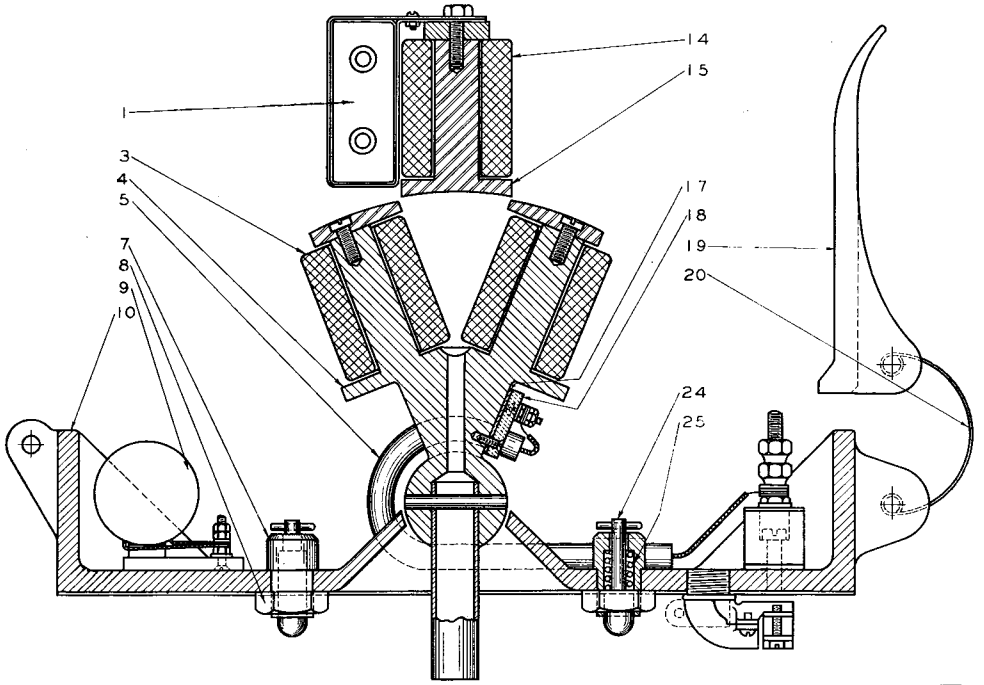
Ref. No.	Description	Drawing Ref.
	Center of Street Type	
1	Two Position Center of Street Type Model 5 Autoflag complete with 4″ I.D. pipe post	0500–511
2	Two Position Center of Street Type Model 5 Autoflag complete with 5″ I.D. pipe post	0500–512
3	Two Position Center of Street Type Model 5 Autoflag Assembly complete for mounting on 4″ I.D. pipe (Includes mechanism, banner and framework)	0500–513
4	Two Position Center of Street Type Model 5 Autoflag Assembly complete for mounting on 5″ I.D. pipe (Includes mechanism, banner and framework)	0500–514
	Side of Street Type	
5	Two Position Side of Street Type Model 5 Autoflag complete with 4″ I.D. pipe post	0500–515
6	Two Position Side of Street Type Model 5 Autoflag complete with 5″ I.D. pipe post	0500–516
7	Two Position Side of Street Type Model 5 Autoflag Assembly complete for mounting on 4″ I.D. pipe (Includes mechanism, banner and bracket)	0500–517
8	Two Position Side of Street Type Model 5 Autoflag Assembly complete for mounting on 5″ I.D. pipe (Includes mechanism, banner and bracket)	0500–518
	Detail Parts	
9	Two Position Model 5 Autoflag Mechanism	0500–281
10	A. A. R. Standard Banner for Two Position Model 5 Autoflag	0500–258
11	Channel iron framework for Two Position Model 5 Autoflag (Center of Street Type) complete for mounting on 4″ I.D. pipe	0500–171
11a	Channel iron framework for Two Position Model 5 Autoflag (Center of Street Type) complete for mounting on 5″ I.D. pipe	0500–173
12	Bracket (not wired) for Two Position Model 5 Autoflag (Side of Street Type) for mounting on 4″ I.D. pipe	505–1
12a	Bracket (not wired) for Two Position Model 5 Autoflag (Side of Street Type) for mounting on 5″ I.D. pipe	505–2

For replacement parts for mechanism see Plates A42 through A46.

WESTERN RAILROAD SUPPLY COMPANY

Model 5 Magnetic Autoflag Mechanism Replacement Parts

FOR BOTH TWO POSITION AND DISAPPEARING BANNER TYPES



ORDERING REFERENCE

Specify Plate Number A40, Reference Number and Description

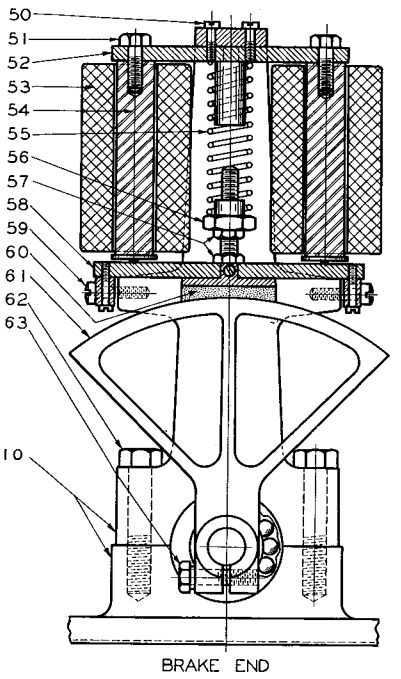
Ref. No.	Description	Piece No.
1	Condenser and bracket complete	510–20
3	Operating coil (specify operating voltage)	0500–203
4	Rocker arm, magnet shoes, and banner stem assembly for two position signal	518–10
4a	Rocker arm, magnet shoes and banner stem assembly for disappearing banner signal	0500–170
5	Standard wire cable complete (5 wires)	510–24
5a	Special wire cable complete (7 wires)	510–25
5b	Special wire cable complete (4 wires)	510–21
7	Stopping plunger assembly complete with lock nut and cotter pin	506–2
8	Lock nut	506–10
9	Reserve light control unit for d.c. operation (specify voltage and wattage of lamps)	525
9a	Reserve light control unit for a.c. operation (specify voltage and wattage of lamps)	0500–290
10	Mechanism base and bearing cap for two position signal	0500–93
10a	Mechanism base and bearing cap for disappearing banner signal	0500–96
14	Operating coil (specify operating voltage)	0500–204
15	Top magnet core and shoe	564
17	Insulation plate	0500–169
18	Terminal block complete	0500–188
19	Locking hasp	215–2
20	Locking spring	513–5
24	Plunger stem only	506–3
25	Plunger spring only	506–4

For further replacement parts see following pages.

WESTERN RAILROAD SUPPLY COMPANY

Model 5 Magnetic Autoflag Mechanism Replacement Parts

BRAKE END FOR TWO POSITION TYPE SIGNAL ONLY



ORDERING REFERENCE

Specify Plate Number A42, Reference Number and Description

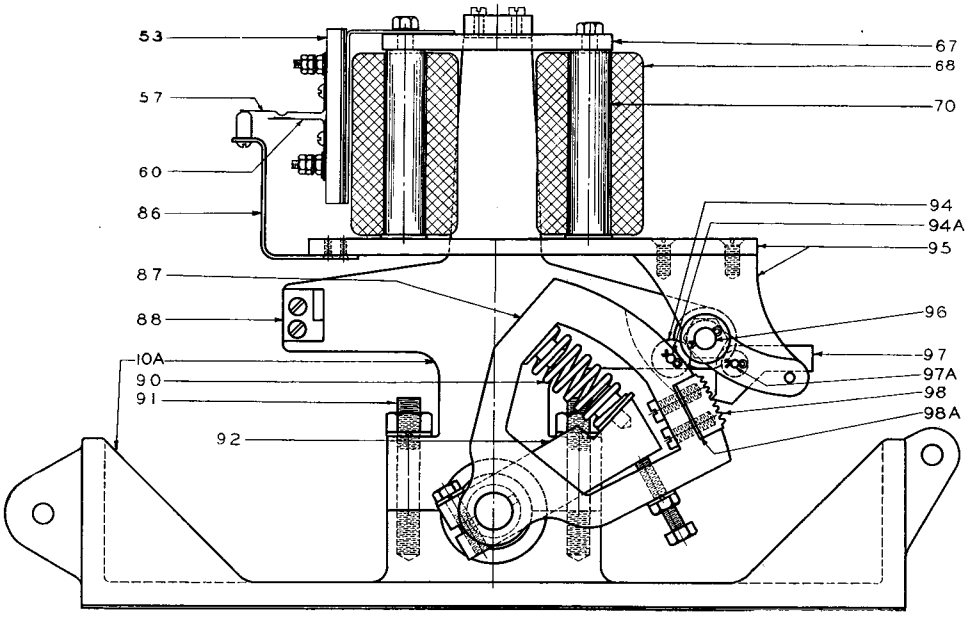
Ref. No.	Description	Piece No.
10	Mechanism base and bearing cap for two position type signal	0500–93
50	Machine screw	
51	Cap screw	
52	Brake mechanism support	511–18
53	Brake coil (specify operating voltage)	0500–204
54	Brake magnet core	510–3
55	Brake tension spring	511–6
56	Brake tension adjusting nut	511–5
57	Lock nut	511–20
58	Brake armature with pivots	511–22
59	Fulcrum screw	511–17
60	Brake shoe with leather	511–16
61	Brake segment (includes Ref. 63)	509
62	Cap screw	
63	Cap screw with lock washer	

For other replacement parts see preceding and following pages.

WESTERN RAILROAD SUPPLY COMPANY

Model 5 Magnetic Autoflag Mechanism Replacement Parts

FOR DISAPPEARING BANNER TYPE SIGNAL ONLY



ORDERING REFERENCE

Specify Plate Number A44, Reference Number and Description

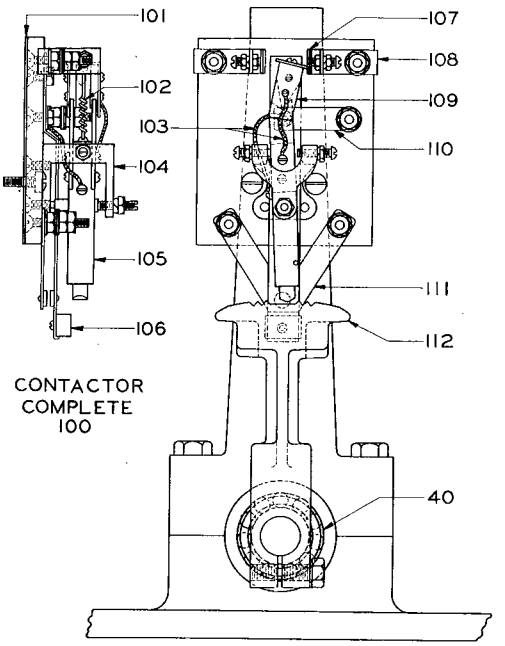
Ref. No.	Description	Piece No.
10a	Mechanism base and bearing cap for disappearing banner signal	0500–96
53	Single contact terminal block complete with contacts and mounting bracket	574
53a	Double contact terminal block complete with contacts and mounting bracket	575
57	Upper contact only	0500–137
60	Lower contact only	0500–138
67	Support for hold clear coil with guide pin	511–18
68	Hold clear coil (specify operating voltage)	0500–205
70	Hold clear magnet core	510–3
86	Arm for operating circuit breaker (for either single or double contacts)	0500–243
87	Hold clear cam only	0500–154
88	Armature stop	0500–159
90	Spring	0500–157
91	Stud	0500–97
92	Spring compression arm	0500–155
94	Roller	0500–160
94a	Roller shaft	0500–161
95	Armature and support	0500–191
96	Armature support stud	0500–164
97	Dog	0500–153
97a	Shaft for dog	0500–165
98	Ratchet block	0500–162
98a	Shim for ratchet block	0500–167

For further replacement parts see preceding and following pages. For replacement parts for old style mechanism write for Drawing 0500-112.

WESTERN RAILROAD SUPPLY COMPANY

Model 5 Magnetic Autoflag Mechanism Replacement Parts

IMPROVED CONTACTOR



Prints showing old style contactors will be furnished on request.

ORDERING REFERENCE

Specify Plate Number A46, Reference Number and Description

Ref. No.	Description	Piece No.
100	Contactor complete	0500–401
101	Insulating plate	0500–403
102	Toggle spring	0500–424
103	Special wire (2 pieces 1¾″ long required)	
104	Bridge with screws	0500–428
105	Pivot end of selecting arm	0500–418
106	Operating contact arm	0500–412
107	Contact spring with silver contact	0500–408
108	Bracket and adjusting screw	0500–405
109	Contact end of selecting arm	0500–423
110	Connector	0500–429
111	Back contact arm	0500–410
112	Operating cam with screw and insulating sleeve	0500–432
40	Ball bearing	518–9

For further replacement parts see preceding pages.

5M-37 PRINTING PRODUCTS CORPORATION—CHICAGO

Section
B

Audible Warning Devices

WESTERN RAILROAD SUPPLY COMPANY

DIVISION OF WESTERN INDUSTRIES, INC.

MANUFACTURERS AND DISTRIBUTORS

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CHICAGO 8, ILLINOIS

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Louisville 2 | St. Paul 1 | Houston 23 | San Francisco 5

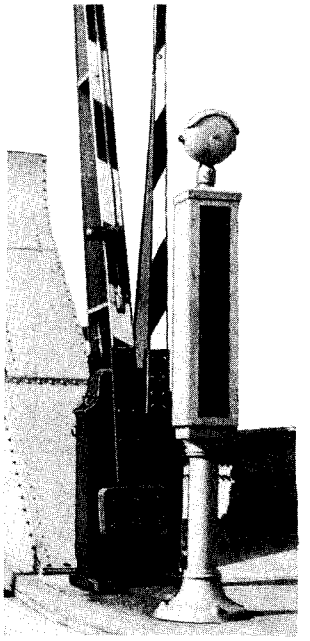
Printed in U.S.A.

Issue of 1957

Typical Installations of WRRSCO Bells

Type 222 Bell Used With Model 10 Signal

Type 990 Locomotive Type Bell Used With Model 10 Signal



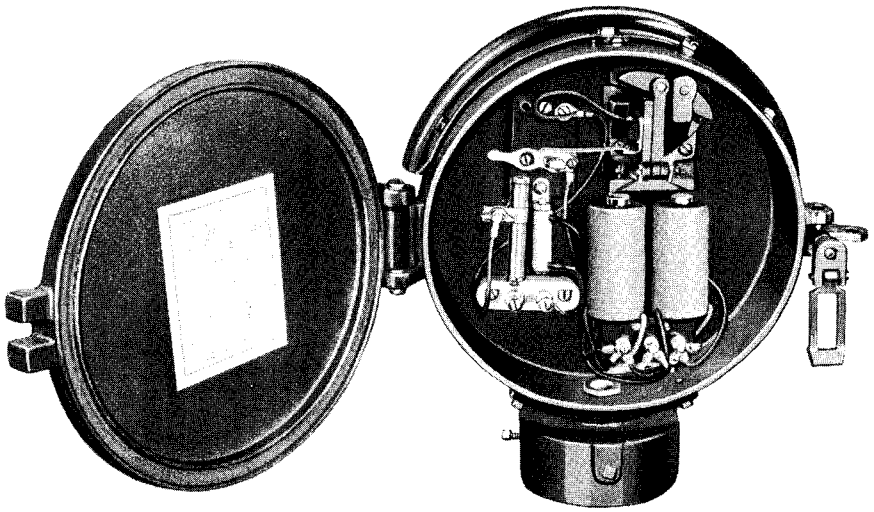
Type 222 Bell Used With Type N-N Drawbridge Gate

Highway Crossing Bell
Type 222
For Top of Post Mounting

6 to 600 Volts D.C.

(Specify Operating Voltage)

Approximately 200 Strokes Per Minute



Types 0222BR, CR, DR and FR Highway Crossing Bells are equipped with a variable resistance for 6 to 16 volts D.C. operation.

Types 0222B, C, D and F Highway Crossing Bells are equipped with a fixed resistance for 16 to 600 volts D.C. as specified.

The movement in detail consists of a pair of magnets, an armature, an oscillator and hammer, a link connecting the armature and oscillator, and an adjustable circuit breaker. The movable contact is mounted on the connecting link. There is only one adjustment to be maintained and that is a 1/16" opening on the circuit breaker. This adjustment is readily made by means of a set screw mounted on the contact finger support. No springs are used to start or control the operation of the bell because the weight of the hammer, due to gravity, returns all moving parts to their normal positions. The bell may be mounted on top or side of 3", 3½", 4" or 5" I.D. pipe post. By use of our Gooseneck Bracket (see Plate B60) the bell may be mounted against a wall or building.

Steel gong is furnished unless bell metal is specified.

For ordering references see following pages.

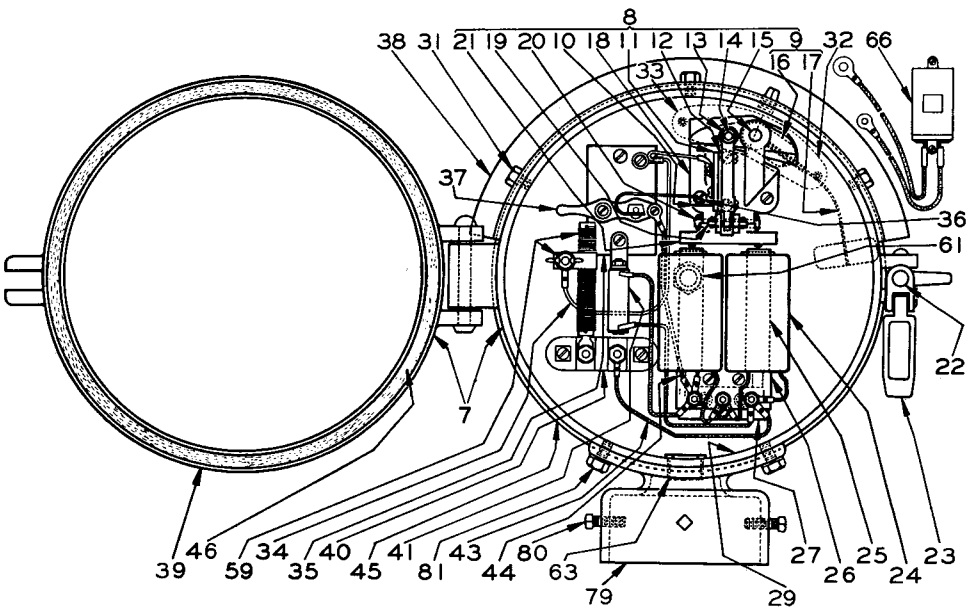
WESTERN RAILROAD SUPPLY COMPANY

Highway Crossing Bell

Type 222

For Top of Pipe Mounting

6 to 16 Volts D.C.
12" Gong



2L, 3L, 4L, 4AL

ORDERING REFERENCE

Specify Plate Number B5, Reference Number and Description

Ref. No.	Description	Piece No.
2L	Type 222 Bell for Mounting on 3½" I. D. Pipe	0222 BR
3L	Type 222 Bell for Mounting on 4" I. D. Pipe	0222 CR
4L	Type 222 Bell for Mounting on 3" I. D. Pipe	0222 DR
4AL	Type 222 Bell for Mounting on 5" I. D. Pipe	0222 FR

SPECIFY THE FOLLOWING—

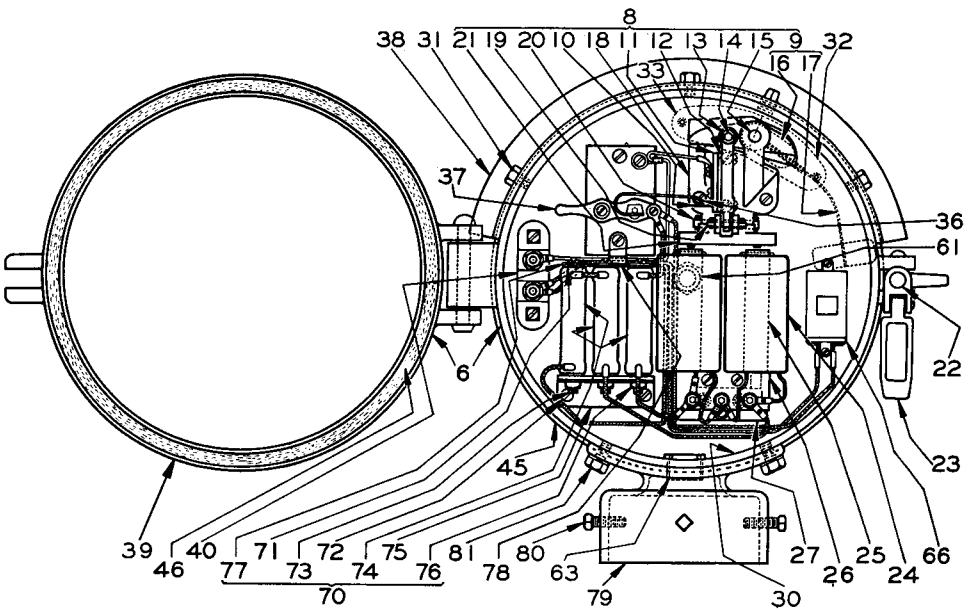
(a) Loud or Soft Tone Hammer. (Loud Tone Hammer Will Be Furnished Unless Otherwise Specified.)

FOR DETAILS SEE PAGES 9 AND 10.

WESTERN RAILROAD SUPPLY COMPANY

Highway Crossing Bell
Type 222
For Top of Pipe Mounting

16 to 600 Volts D.C.
12" Gong



2H, 3H, 4H, 4AH

ORDERING REFERENCE

Specify Plate B5, Reference Number and Description

Ref. No.	Description	Piece No.
2H	Type 222 Bell for Mounting on 3½" I. D. Pipe	0222 B
3H	Type 222 Bell for Mounting on 4" I. D. Pipe	0222 C
4H	Type 222 Bell for Mounting on 3" I. D. Pipe	0222 D
4HA	Type 222 Bell for Mounting on 5" I. D. Pipe	0222 F

SPECIFY THE FOLLOWING—

(a) Operating Voltage.

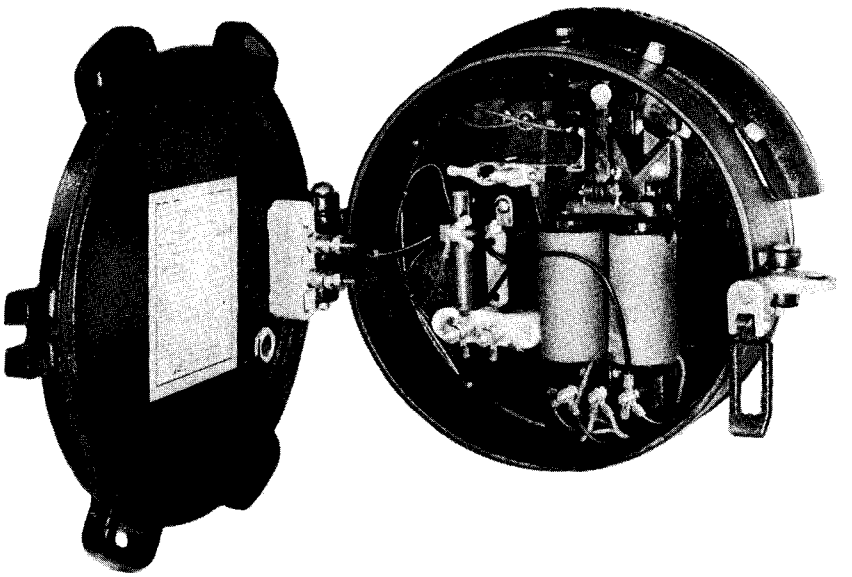
(b) Loud or Soft Tone Hammer. (Loud Tone Hammer Will Be Furnished Unless Otherwise Specified.)

FOR DETAILS SEE PAGES 9 AND 10.

WESTERN RAILROAD SUPPLY COMPANY

Highway Crossing Bell
Type 222
For Side of Post or Wall Mounting

6 to 600 Volts D.C.
(Specify Operating Voltage)
Approximately 200 Strokes Per Minute



Type 0222AR Highway Crossing Bell is equipped with a variable resistance for 6 to 16 Volts D.C. operation.

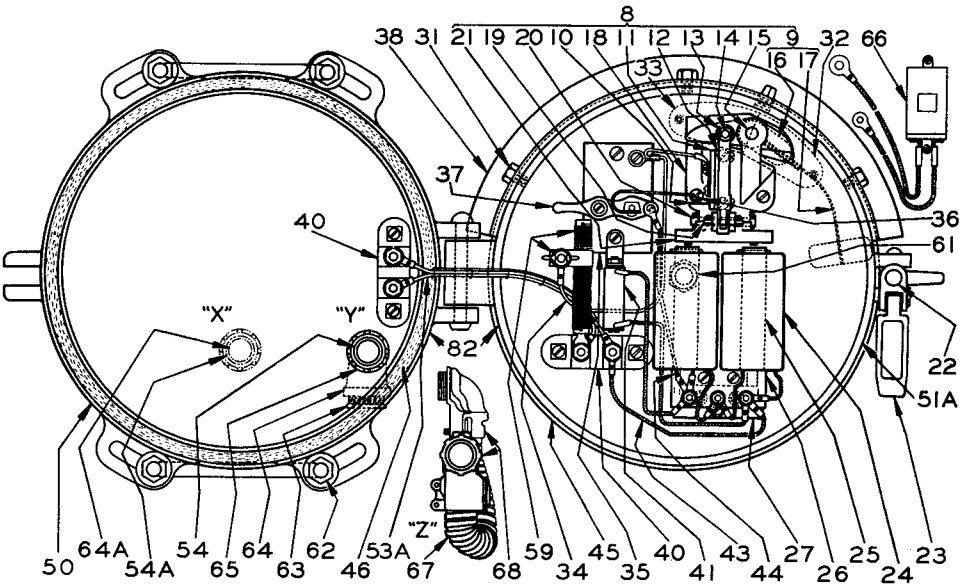
Type 0222A Highway Crossing Bell is equipped with a fixed resistance for 16 to 600 Volts D.C. operation as specified.

The construction and operation of types 0222AR and 0222A Highway Crossing Bells is the same as those illustrated on page 3 except they are for side of pipe post mounting.

For ordering references see following pages.

Highway Crossing Bell
Type 222
For Side of Pipe or Wall Mounting

6 to 16 Volts D.C.
12" Gong



IL. ILA. ILB

ORDERING REFERENCE Specify Plate Number B5, Reference Number and Description		
Ref. No.	Description	Piece No.
1L	Type 222 Bell for Mounting on Side of Pipe (Direct Wire Entrance into Pipe Per View "X")	0222 A1R
1LA	Type 222 Bell for Mounting on Side of Pipe (Outside Wire Entrance Per View "Y")	0222 AR
1LB	Type 222 Bell for Mounting on Side of Pipe (Flexible Connection to Pipe Per View "Z")	0222 ARP

SPECIFY THE FOLLOWING—

(a) Size of Pipe.

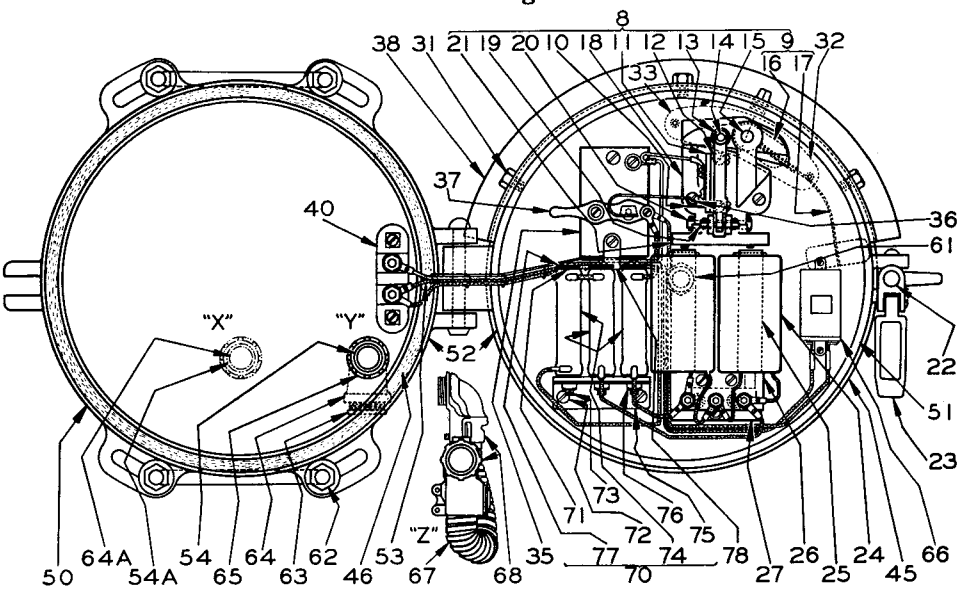
(b) Loud or Soft Tone Hammer. (Loud Tone Hammer Will Be Furnished Unless Otherwise Specified.)

FOR DETAILS SEE PAGES 9 AND 10.

WESTERN RAILROAD SUPPLY COMPANY

Highway Crossing Bell
Type 222
For Side of Pipe or Wall Mounting

16 to 600 Volts D.C.
12" Gong



1H, 1HA, 1HB

ORDERING REFERENCE Specify Plate Number B5, Reference Number and Description		
Ref. No.	Description	Piece No.
1H	Type 222 Bell for Mounting on Side of Pipe (Direct Wire Entrance to Pipe Per View "X")	0222 A1
1HA	Type 222 Bell for Mounting on Side of Pipe (Outside Wire Entrance Per View "Y")	0222 A
1HB	Type 222 Bell for Mounting on Side of Pipe (Flexible Connection Per View "Z")	0222 AP

SPECIFY THE FOLLOWING—

(a) Operating Voltage.

(b) Size of Pipe.

(c) Loud or Soft Tone Hammer. (Loud Tone Hammer Will Be Furnished Unless Otherwise Specified.)

FOR DETAILS SEE PAGES 9 AND 10.

WESTERN RAILROAD SUPPLY COMPANY

Highway Crossing Bell Type 222

REPLACEMENT PARTS

ORDERING REFERENCE

Specify Plate Number B5, Reference Number and Description

Ref. No.	Description	Piece No.
6	Case and Cover Subassembly for Type 222 B, C, D, or F Bell.	1249-20A
7	Case and Cover Subassembly for Type 222 BR, CR, DR or FR Bell	1249-20
8	Movement Base Assembly Complete (Includes Items 9 thru 21)	1215
9	Oscillator and Hammer Assembly (Includes Items 16 and 17)	1215-1
10	Moving Contact (with Silver Contact)	1210-5
10a	Moving Contact (with Platinum Contact)	1210-5B
11	Link Insulator	1210-4
12	Insulation Strip	1210-10
13	Operating Link	1209-4
14	Operating Link Stud	1209-6
15	Oscillator Stud	1209-8
16	Oscillator with Bushing and Stud (Includes Item 14)	1209-13
17	Hammer Complete with Reenforcement Springs (For Loud Tone)	1210-17
17a	Hammer Complete with Reenforcement Springs (Bakelite Faced for Soft Tone)	1210-20
18	Movement Base Only	1209-1
19	Operating Link Pin Complete with Cotter Pins	1209-9
20	Armature Pin Complete with Cotter Pins	1209-10
21	Armature	1209-2
22	Locking Bolt	1410-11
23	Locking Hasp and Bolt	1410-31
24	Magnet Coil (Specify Resistance of Bell)	1231-3
25	Magnet Core	1209-7
26	Terminal Block Complete	1249-7
27	Magnet Bracket	1209-3
28	Case Subassembly for Type 1203 Bell	1203-12A
29	Case Subassembly for Type BR, CR, DR and FR Bell	1206A-10
30	Case Subassembly for Type B, C, D and F Bell	1206C-10
31	Cap Screw, 5/16"—18 x 5/8" Lg., Iron, Hex. Hd.	
32	Right Hand Dust Guard	1248-1
32a	Right Hand Dust Guard (Fish Type)	1248-3
33	Left Hand Dust Guard	1248-2
34	Flexible Lead Wire (Included in Item 59)	1222-11
35	Contact Block	1210-3
36	Contact Finger (With Silver Contacts)	1222-10
36a	Contact Finger (With Platinum Contacts)	1222-10B
37	Contact Finger Support	1209-14
38	Rain Shield	1208
39	Cover for Type 222 B, C, D and F Bell (Includes Packing)	1217-1
40	Porcelain Terminal Block	1056-16
41	Non-arcing Resistance Complete	1235
43	Flexible Wire Lead	1222-14

WESTERN RAILROAD SUPPLY COMPANY

Highway Crossing Bell
Type 222

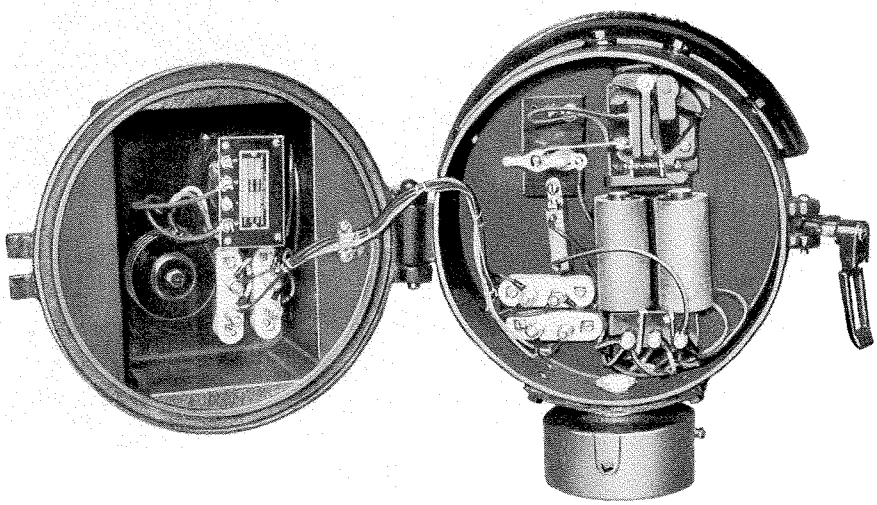
REPLACEMENT PARTS
(Continued)

ORDERING REFERENCE
Specify Plate Number B5, Reference Number and Description

Ref. No.	Description	Piece No.
44	Flexible Wire Lead	1222-13
45	Steel Gong	1211
45a	Bell metal gong	1211-B
46	Cover Packing Strip	1217-2
50	Cover for Type 222A and 222AR Bell (Outside Wire Entrance)	1207-5
50a	Cover for Type 222A1 and 222A1R Bell (Wire Entrance Into Pipe)	1218-1
50b	Cover for Type 222AP and 222ARP Bell (Flexible Conduit Entrance)	1207A-5
51	Case for Type 222 A, A1 and AP Bells	1206B-10
51a	Case for Type 222 AR, A1R and ARP Bells	1206-10
52	Case and Cover Subassembly for Type 222A Bell	1249-5B
52a	Case and Cover Subassembly for Type 222 A1 Bell	1249-4B
52b	Case and Cover Subassembly for Type 222 AP Bell	1249-4A
53	Flexible Wire Lead	1222-18
54	Elbow Wire Outlet for Type 222A Bell (Outside Wire Entrance) (Includes Items 63, 64 and 65)	1222-15
54a	Straight Wire Outlet for Type 222A Bell (Wire Entrance Into Pipe) (Includes Items 64A and 65)	1222-16
59	Variable Resistance Unit	1210-28
61	Cap Screw, ½″—13 x ⅞″ Lg. Steel, Hex. Hd. and Steel Lock Washer	
62	"U" Bolt for 4″ I. D. Pipe	1207-1
62a	"U" Bolt for 5″ I. D. Pipe	1207-2
62b	"U" Bolt for 3½″ I. D. Pipe	1207-3
62c	"U" Bolt for 3″ I. D. Pipe	1207-4
62d	"U" Bolt for 6″ Pipe	1207-8
62e	Hinged "U" Bolt for 8″ Pipe	3364-33
63	¾″ Chase Nipple	
64	¾″ Street El	
64a	¾″ Pipe Nipple	
65	¾″ Conduit Bushing	
66	Non-arcing Condenser	1101-87A
67	¾″ Penflex Conduit, 18″ Lg.	
68	¾″ 90° Squeeze Connector	
70	Subassembly of Shunt Resistance for 250 Volts, D. C.	1237-25
70a	Subassembly of Shunt Resistance for 600 Volts, D. C.	1237-25B
70b	Subassembly of Shunt Resistance for 300 Volts, D. C.	1237-25C
71	Washer	1115
72	Mach. Screw, No. ¼″—20 x ¼″ Lg., Rd. Hd. Brass	
73	Stove Bolt, No. ¼″—20 x 4″ Lg., Rd. Hd. Steel	
74	Resistance Unit, 350 Ohms	1222-17
74a	Resistance Unit, 700 Ohms	1222-17B
74b	Resistance Unit, 400 Ohms	1222-17C
75	Mounting Bracket	1290-2
76	Square Steel Nut, ¼″—20	
77	Plain Brass Washer, ¾″ O. D. x 9/32″ I. D. x 1/16″ Thick	
78	Wire Clip	1012-13
79	Socket for 3″ I. D. Pipe (Includes Items 80 and 81)	1206-3B
79a	Socket for 3½″ I. D. Pipe (Includes Items 80 and 81)	1206-2B
79b	Socket for 4″ I. D. Pipe (Includes Items 80 and 81)	1206-4B
79c	Socket for 5″ I. D. Pipe (Includes Items 80 and 81)	1206-5B
80	Set Screw, 5/16″—18 x ¾″ Lg. Cup Pt., Iron	
81	Cap Screw, 5/16″—18 x ⅝″ Lg. Hex. Hd., Iron and Lockwasher	
82	Case and Cover Subassembly for Type 222 AR Bell	1249-4
82a	Case and Cover Subassembly for Type 222 A1R Bell	1249-5
82b	Case and Cover Subassembly for Type 222 ARP Bell	1249-5A
83	Wire Cable (For 1203 Bells Only)	1203-24

Highway Crossing Bell
Type 1203
For A. C. Operation
or Normal Low Voltage A. C. with D. C. Reserve

Approximately 200 Strokes Per Minute



Type 1203 Highway Crossing Bell with rectifier and transformer built into cover is the well known Type 222 Bell modified to permit operation from any source. This bell can be furnished without the transformer, but with the rectifier, so that it may be normally operated from low voltage A.C. with D.C. reserve of the same voltage as used to operate flashing lights and other highway crossing signals.

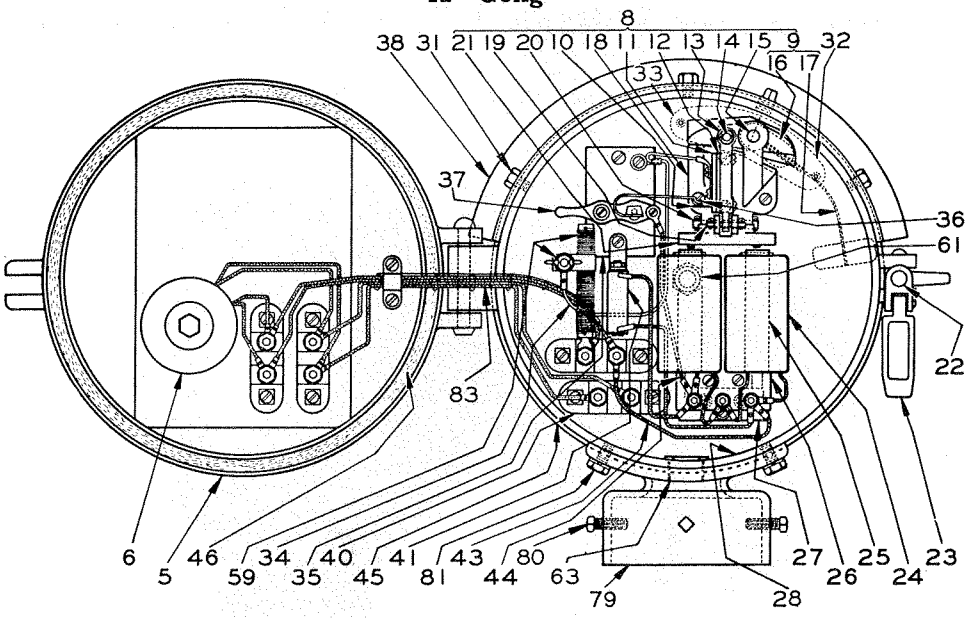
Steel gong is furnished unless bell metal is specified.

For Ordering References, see Pages 12 and 13.

WESTERN RAILROAD SUPPLY COMPANY

Highway Crossing Bell Type 1203
For Normal Low Voltage A.C.
with D.C. Reserve

12" Gong



1. 2. 3. 4

ORDERING REFERENCE

Specify Plate Number B10, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1203 Bell for Mounting on Top of 3" I. D. Pipe	1203DR
2	Type 1203 Bell for Mounting on Top of 4" I. D. Pipe	1203CR
3	Type 1203 Bell for Mounting on Top of 3½" I. D. Pipe	1203BR
4	Type 1203 Bell for Mounting on Top of 5" I. D. Pipe	1203FR
5	Cover Only (Not Drilled)	1203-9
6	Rectifier Only (Specify Operating Voltage and Frequency)	1203-10

SPECIFY THE FOLLOWING—

(a) Operating Voltage and Frequency.

(b) Loud or Soft Tone Hammer. (Loud Tone Hammer Will Be Furnished Unless Otherwise Specified.)

Type 1203 Highway Crossing Bell Can Be Mounted on the Side of a Pole or Flat Surface by Use of Our Gooseneck Bracket. See Plate B60.

FOR REPLACEMENT PARTS NOT LISTED ABOVE SEE PAGES 9 AND 10.

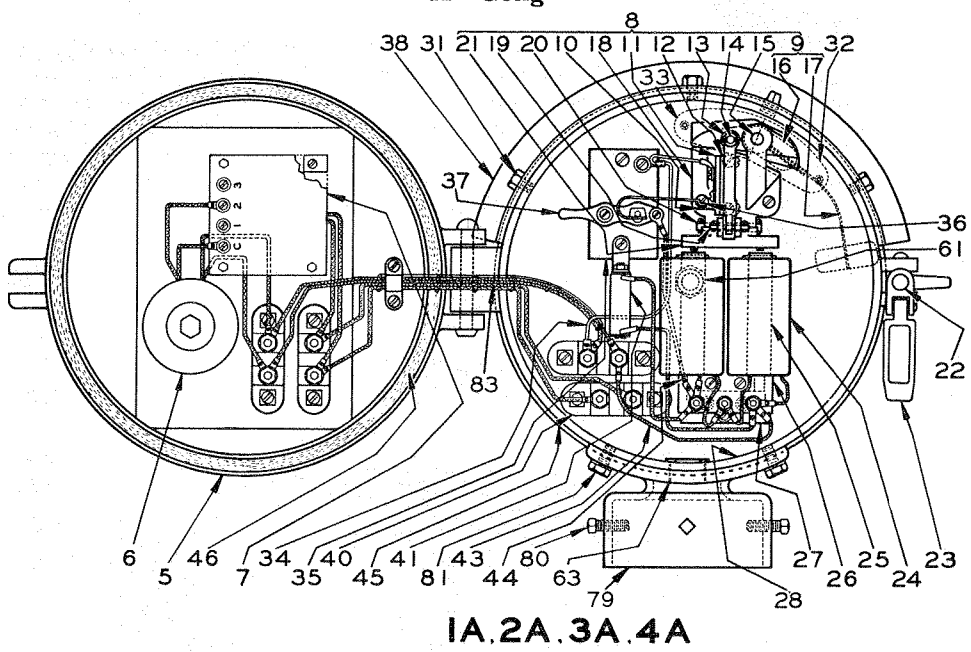
WESTERN RAILROAD SUPPLY COMPANY

Highway Crossing Bell

Type 1203

For A. C. Operation

12″ Gong



1A.2A.3A.4A

ORDERING REFERENCE

Specify Plate Number B10, Reference Number and Description

Ref. No.	Description	Piece No.
1A	Type 1203 Bell for Mounting on Top of 3″ I. D. Pipe	1203D
2A	Type 1203 Bell for Mounting on Top of 4″ I. D. Pipe	1203C
3A	Type 1203 Bell for Mounting on Top of 3½″ I. D. Pipe	1203B
4A	Type 1203 Bell for Mounting on Top of 5″ I. D. Pipe	1203F
5	Cover Only (Not Drilled)	1203-9
6	Rectifier Only (Specify Operating Voltage and Frequency)	1203-10
7	Transformer Only (Specify Operating Voltage and Frequency)	1203-11

SPECIFY THE FOLLOWING—

(a) Operating Voltage and Frequency (115 or 230 volts, 25 or 60 cycles).

(b) Loud or Soft Tone Hammer. (Loud Tone Hammer Will Be Furnished Unless Otherwise Specified.)

Type 1203 Highway Crossing Bell Can Be Mounted on the Side of a Pole or Flat Surface by Use of Our Gooseneck Bracket. See Plate B60.

FOR REPLACEMENT PARTS NOT LISTED ABOVE SEE PAGES 9 AND 10.

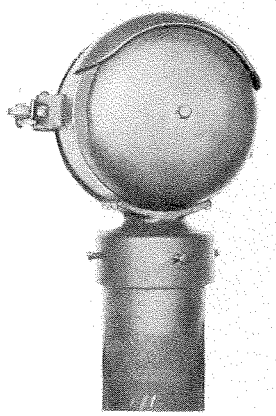
WESTERN RAILROAD SUPPLY COMPANY

Type 1275 Pedestrian Crossing Bell

8" GONG TYPE

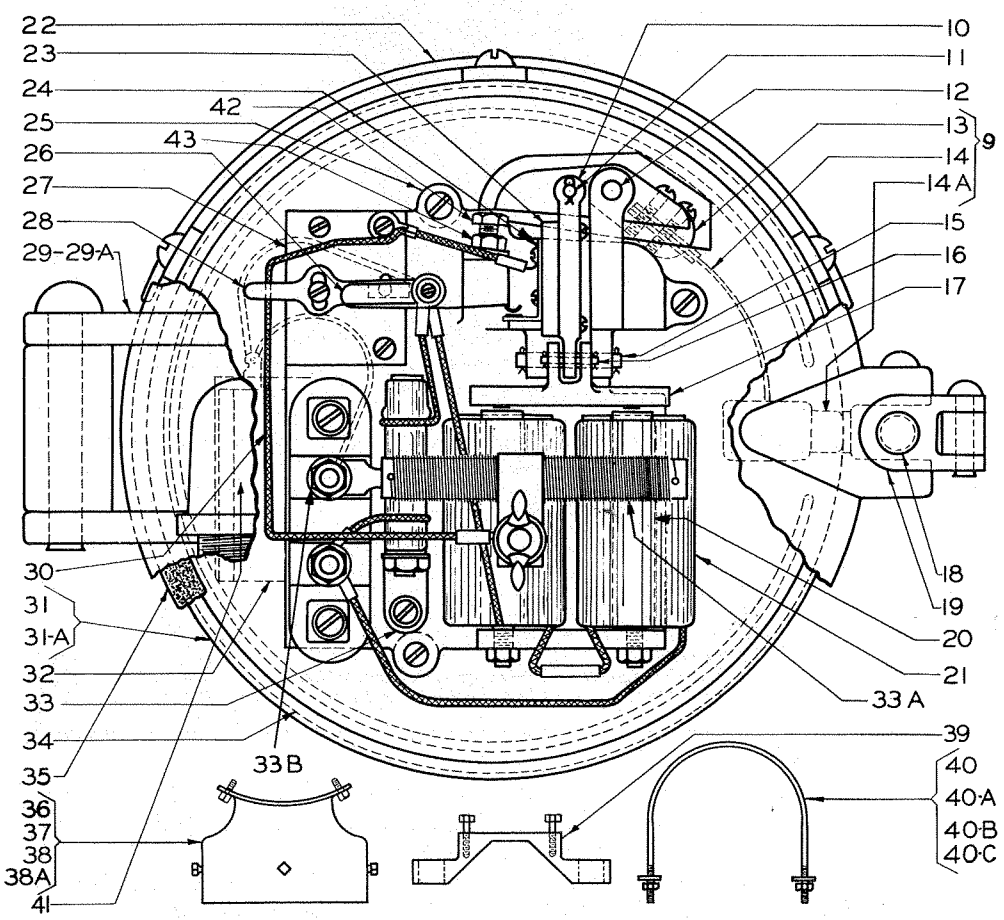
For 6 to 16 Volts D.C.

Approximately 225 Strokes Per Minute



Type 1275 Pedestrian Crossing Bell was especially designed for use in residential areas where too loud a warning might prove offensive. It is identical with the well-known Type 222 Bell except that it is built with an 8" gong and proportionally smaller parts. The Type 1275 bell is equipped with a variable resistance for 6 to 16 volts D.C. operation. Specify for mounting on top or sides of 3", 3½", 4", or 5" I.D. pipe post.

Steel gong is furnished unless bell metal is specified.



For references and replacement parts list see opposite page.

Type 1275 Pedestrian Crossing Bell

(Continued)

REPLACEMENT PARTS

ORDERING REFERENCE

Specify Plate Number B15, Reference Number, and Description

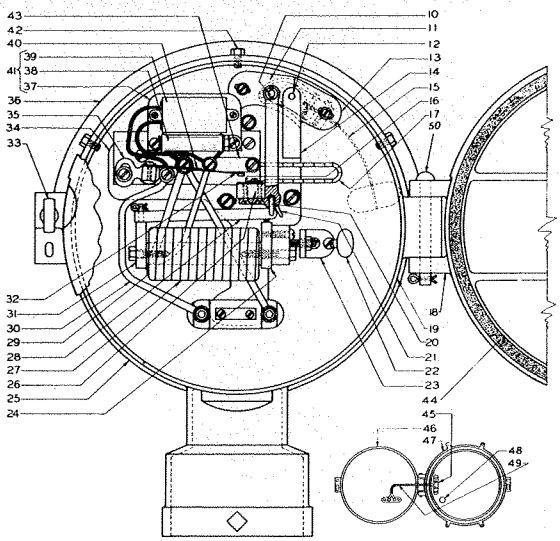
Ref. No.	Description	Drawing Ref.
1	Type 1275 Pedestrian Crossing Bell for mounting on top of 4″ I. D. pipe post (Specify operating voltage)	1275CR
2	Type 1275 Pedestrian Crossing Bell for mounting on top of 3½″ I. D. pipe post (Specify operating voltage)	1275BR
3	Type 1275 Pedestrian Crossing Bell for mounting on top of 3″ I. D. pipe post (Specify operating voltage)	1275DR
4	Type 1275 Pedestrian Crossing Bell for mounting on top of 5″ I. D. pipe post (Specify operating voltage)	1275FR
5	Type 1275 Pedestrian Crossing Bell for mounting on side of pole (Specify I. D. of pipe post and operating voltage)	1275AR
	Replacement Parts	Piece No.
9	Assembly of oscillator and hammer	1275-3B
10	Operating link	1282
11	Operating link stud	1293
12	Oscillator pin	1294
13	Oscillator complete with bushings and stud	1280–1
14	Hammer complete with bakelite head	1299B
14a	Bakelite head only	1299–5B
15	Link bracket pin	1291
16	Armature pin	1292
17	Armature	1281–1
18	Locking bolt	1410–11
19	Locking hasp and nut	1410–31
20	Magnet core	1296
21	Magnet coil (Specify resistance of bell)	Dwg. 1297–4
22	Rain shield	1284
23	Contact mounting block	1287
24	Moving contact	1288
25	Base plate	1283
26	Contact finger	1289
27	Contact mounting block	1286
28	Contact finger support	1285
29	Door complete (for side of pole mounting)	1276–5
29a	Door complete (for top of pole mounting)	1276–3
30	Flexible wire lead	1288–1
31	Bell case (for top of pole mounting)	1277
31a	Bell case (for side of pole mounting)	1277–1
32	¼ M. F. condenser	1101–87B
33	Non-arcing resistance	1235
33a	Variable resistance unit	1210–28A
33b	Variable resistance unit spacer	1290–5
34	Steel gong	1295
34b	Bell metal gong	1295–B
35	Felt door packing strips	1276–4
36	Case socket for 4″ I. D. pipe w/mounting screws and set screws	1278–3
37	Case socket for 3½″ I. D. pipe w/mounting screws and set screws	1278–4
38	Case socket for 3″ I. D. pipe w/mounting screws and set screws	1278–5
38a	Case socket for 5″ I. D. pipe w/mounting screws and set screws	1278–5A
39	Clamp for mounting bell to side of pole (2 required)	1279–1
40	U-bolt for mounting bell to 4″ I. D. pole (2 required)	1276–11
40a	U-bolt for mounting bell to 3½″ I. D. pole (2 required)	1276–10
40b	U-bolt for mounting bell to 3″ I. D. pole (2 required)	1276–13
40c	U-bolt for mounting bell to 5″ I. D. pole (2 required)	1276–12
41	Wire outlet (used only on 1275A bell)	1222–15
42	#10—24 x ½″ long hex head steel cap screw	
43	#10—24 steel hex nut	

WESTERN RAILROAD SUPPLY COMPANY

Type 1101 Maxatone Highway Crossing Bell

(MANUFACTURE DISCONTINUED)

REPLACEMENT PARTS



ORDERING REFERENCE

Specify Plate Number B20, Reference Number and Description

Ref. No.	Description	Piece No.
10	Link bearing shaft	1101–13
11	Dust guard	1101–55
12	Hammer bearing shaft	1101–12
13	Hammer bearing	1101–92
14	Mechanism complete	1101–105
15	Hammer complete with reinforcement	1101–9
16	Flat contact	1101–32
17	Flexible lead wire	1101–37
18	Hinged cover for top of post mounting	1101–90
19	Hinged case for top of post mounting	1101–4
20	Armature connecting link	1101–48
21	Operating link	1101–6
22	Adjustment bracket thumb screw	1101–42
23	Angle adjustment bracket	1101–25
24	Assembly of front pole piece	1101–21
25	Steel gong	1211
26	Contact support	1101–27
27	Coil (Specify resistance of bell)	Dg. 1101–23
28	Armature	1101–19
29	Magnet core	1101–22
30	Wire jumper	1101–38
31	Assembly of back pole piece	1101–20
32	Contact finger complete	1101–28
33	Hinged cover thumb screw	1101–43
34	Mechanism frame only	1101–5
35	Contact finger support	1101–8
36	Rain shield	1101–3
37	Mounting plate for condenser and resistance	1101–87
38	Non-arcing resistance	1235
39	Non-arcing condenser (Eliminates radio interference)	1101–86
40	Contact finger reinforcement	1101–30
41	Condenser and resistance assembly complete	1101–88
42	Cap screw (3 required)	
43	Connecting link	1101–35
44	Door packing strip	1101–89
45	Terminal block (For side-mounting bell only)	1056–16
46	Hinged case for side of post mounting (1101–101 Bell only)	1101–94
47	Hinged cover for side of post mounting (1101–101 Bell only)	1101–91
48	Wire outlet for side of post mounting (1101–101 Bell only)	1101–99
49	Flexible wire lead for side of post mounting (1101–101 Bell only)	1101–98
50	Hinge pin with cotter pin	1101–29A

MEMORANDA

WESTERN RAILROAD SUPPLY COMPANY

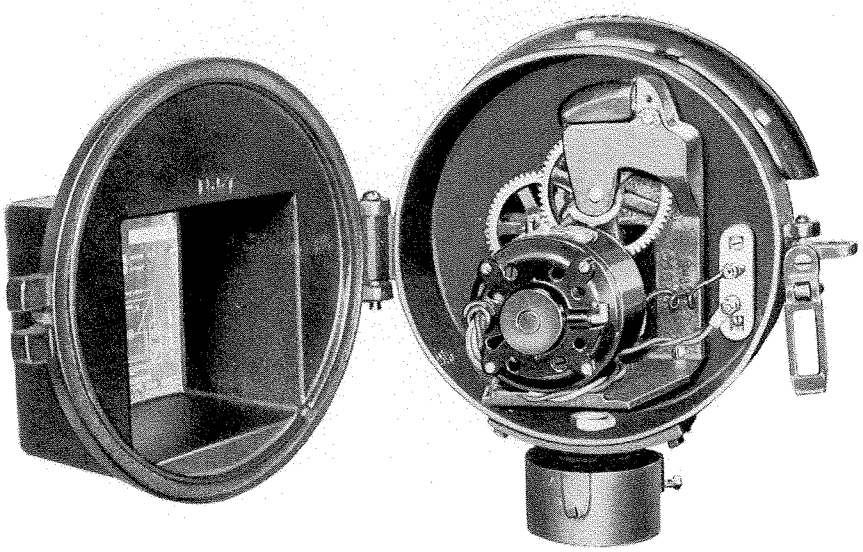
Type 555 Highway Crossing Bell

MOTOR DRIVEN — GONG TYPE

For 6 to 600 Volts D.C. or 115 or 230 Volts A.C., 25 or 60 cycles

IMPROVED TYPE

Approximately 112 Strokes Per Minute



The Type 555 Gong Type Crossing Bell is of the same general appearance as the Type 222 Bell except that the hinged cover is enlarged to house the motor driven mechanism, consisting of a motor, two gears and a bell hammer. A cam mounted on one of the gear wheels engages and raises a weight to a certain point and then, due to gravity, allows it to drop. The bell hammer is connected to this operating weight by a shaft which causes the hammer to strike the gong a sharp heavy blow when the weight drops, giving a clear penetrating sound. The hammer blows are so timed that the sound waves of one blow are not broken up by subsequent waves.

Steel gong is furnished unless bell metal is specified.

This bell can be furnished for operation on any specified direct current voltage from 6 to 600; or for use on alternating current commercial lighting circuits of 115 or 230 volts, either 25 or 60 cycle.

When ordering, specify type of mounting and:
If for Direct Current specify voltage.
If for Alternating Current specify voltage and frequency.

ORDERING REFERENCE

Specify Plate Number B25, Reference Number and Description

Ref. No.	Description	Drawing Ref.
1	Type 555 Bell for mounting on top of 3½″ I. D. pipe post.....	0555B
2	Type 555 Bell for mounting on top of 4″ I. D. pipe post.....	0555C
3	Type 555 Bell for mounting on top of 3″ I. D. pipe post.....	0555D
4	Type 555 Bell for mounting on top of 5″ I. D. pipe post.....	0555F

Type 555 Bell can be furnished for mounting on the side of pole or flat surface by use of our Gooseneck Bracket (See Plate B60).

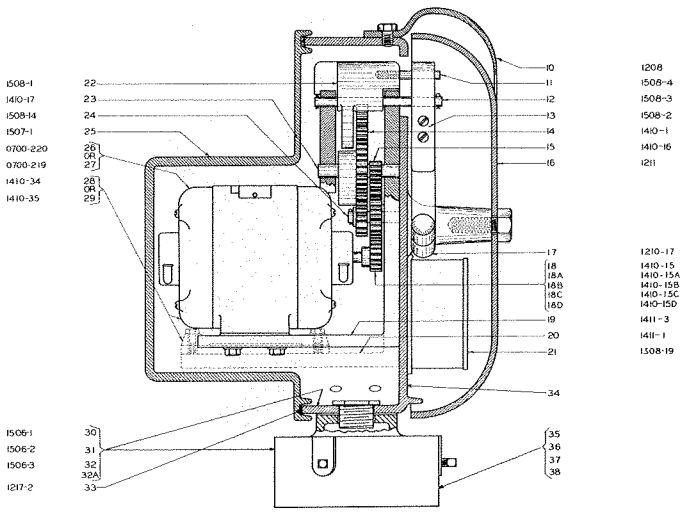
WESTERN RAILROAD SUPPLY COMPANY

Type 555 Highway Crossing Bell

(Continued)

REPLACEMENT PARTS FOR IMPROVED TYPE

See Plate B56 for Replacement Parts for Original Design



ORDERING REFERENCE

Specify Plate Number B25, Reference Number and Description

Ref. No.	Description	Piece No.	Ref. No.	Description	Piece No.
10	Rain shield	1208	27	D. C. motor (Bells after Serial No. 600) (Specify voltage)	Dwg. 0700-219
11	Operating weight stud	1508-4	28	A. C. motor (Bells before Serial No. 601) (Specify voltage and frequency)	Dwg. 1410-34
12	Operating weight shaft	1508-3	29	D. C. motor (Bells before Serial No. 601) (Specify voltage)	Dwg. 1410-35
13	Hammer support	1508-2	30	Case and socket assembly for mounting on 3½" I. D. pipe	1506-1A
14	Drive gear	1410-1	31	Case and socket assembly for mounting on 4" I. D. pipe	1506-2A
15	Intermediate gear and pinion	1410-16	32	Case and socket assembly for mounting on 3" I. D. pipe	1506-3A
16	Steel gong	1211	32a	Case and socket assembly for mounting on 5" I. D. pipe	1506-4A
16a	Bell metal gong	1211-B	33	Door Packing	1217-2
17	Hammer with reinforcements	1210-17	34	Case for A. C. bell	1506
18	Motor pinion 12 teeth 5/16" bore	1410-15	34a	Case for D. C. bell	1506A
18a	Motor pinion 14 teeth 5/16" bore	1410-15A	35	Socket subassembly for 3" I. D. pipe	1206-3B
18b	Motor pinion 16 teeth 5/16" bore	1410-15B	36	Socket subassembly for 3½" I. D. pipe	1206-2B
18c	Motor pinion 20 teeth 5/16" bore	1410-15C	37	Socket subassembly for 4" I. D. pipe	1206-4B
18d	Motor pinion 14 teeth 3/8" bore	1410-15D	38	Socket subassembly for 5" I. D. pipe	1206-5B
19	Frame (Bells after Serial No. 600)	1411-3			
20	Frame (Bells before Serial No. 601)	1411-1			
21	Capacitor for 110 V. motor	1508-19			
21a	Capacitor for 220 V. motor	1508-19A			
22	Operating weight	1508-1			
23	Drive gear shaft	1410-17			
24	Intermediate gear stud	1508-14			
25	Door complete	1507-1			
26	A. C. motor (Bells after Serial No. 600) (Specify voltage and frequency)	Dwg. 0700-220			

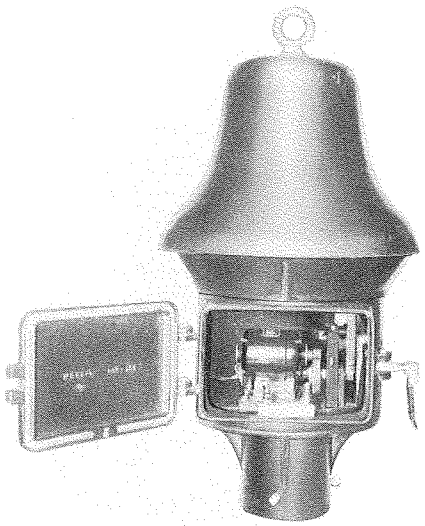
WESTERN RAILROAD SUPPLY COMPANY

Type AL-50 Motor Driven Locomotive Type Bell

16" LOCOMOTIVE GONG

For 10 or 110 Volts D.C. and 115 or 230 Volts A.C., 25 or 60 cycles

Approximately 32 Strokes Per Minute



Type AL-50 Motor Driven Locomotive Type Bell is now made with improved 3-piece mechanism housing.

This motor driven locomotive type bell is particularly adapted for use wherever a very penetrating warning is required, such as in industrial areas.

The mechanism is extremely simple and consists of a motor and a train of gears which drive a cam used for raising a weight, which being attached to the clapper, delivers heavy, evenly timed blows on the inside of a 16" heavy steel or bell metal gong. The motor and gears are mounted on a removable base.

The bell may be equipped to operate on any commercial A.C., voltage and frequency, as well as any standard D.C. voltage.

Steel gong is furnished unless bell metal is specified.

When ordering, specify type of mounting and:
If for Direct Current specify voltage.
If for Alternating Current specify voltage and frequency.

ORDERING REFERENCE

Specify Plate Number B30, Reference Number and Description

Ref. No.	Description	Drawing Ref.
1	Type AL-50 Locomotive Type Bell for mounting on top of 4" I. D. pipe post (Specify D. C. voltage or A. C. voltage and frequency)	AL-50C
4	Type AL-50 Locomotive Type Bell for mounting on top of 5" I. D. pipe post (Specify D. C. voltage or A. C. voltage and frequency)	AL-50F

For replacement parts see following page.

NOTE: This bell may be furnished with Gooseneck Bracket for mounting on side of pole or building. See Plate B60.

WESTERN RAILROAD SUPPLY COMPANY

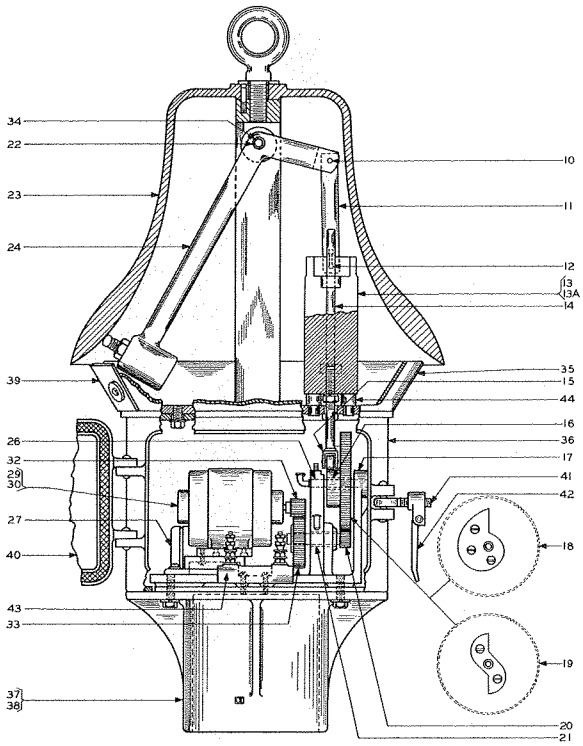
Type AL-50 Motor Driven Locomotive Type Bell

(MADE AFTER JANUARY 1, 1955)

(Continued)

REPLACEMENT PARTS

New style with 3-piece mechanism housing
See Page 22 for oldstyle with one-piece housing



ORDERING REFERENCE

Specify Plate Number B30, Reference Number and Description

Ref. No.	Description	Piece No.	Ref. No.	Description	Piece No.
10	Connecting link pin	0050-18	**26**	Gear shaft with oil cup	0050-35
11	Connecting link	0050-26	**27**	Capacitor for 110 V. motor	0700-210
12	Operating weight pin	0050-32	**27a**	Capacitor for 220 V. motor	0700-210A
13	Operating weight with bumpers. (For Bells shipped before April 15, 1957.)	0050-5	**29**	D. C. motor (Specify voltage)	Dg.0050-28
13a	Operating weight only (For Bells shipped after April 15, 1957)	0050-51A	**30**	A. C. motor (Bells purchased after 1/1/37) (Specify voltage and frequency)	Dg.0050-29
14	Guide stud	0050-20	**32**	Motor pinion	0050-25
15	Roller assembly	0050-10	**33**	Connecting gear	0050-7
16	Bushing	0050-16	**34**	Clapper pivot pin	990-31
17	Mechanism frame	0050-3	**35**	Gong Support	990-150A
18	Drive gear and single step cam	0050-33	**36**	Mechanism housing	990-152A
19	Drive gear and double step cam	0050-34	**37**	Base socket for 4" pipe post	990-154A
20	Shaft gear	0050-24	**38**	Base socket for 5" pipe post	990-155A
21	Bushing	0050-15	**39**	Hand hole cover with screws	990-156B
22	Bushing	990-13	**40**	Housing cover with packing	990-151B
23	Steel gong	990-11	**41**	Hasp eye bolt	1410-11
23a	Bell metal gong	990-11B	**42**	Locking hasp	1410-30
24	Clapper complete	0050-23	**43**	Terminal Strip	1056-14
			44	Bumper	0050-22

WESTERN RAILROAD SUPPLY COMPANY

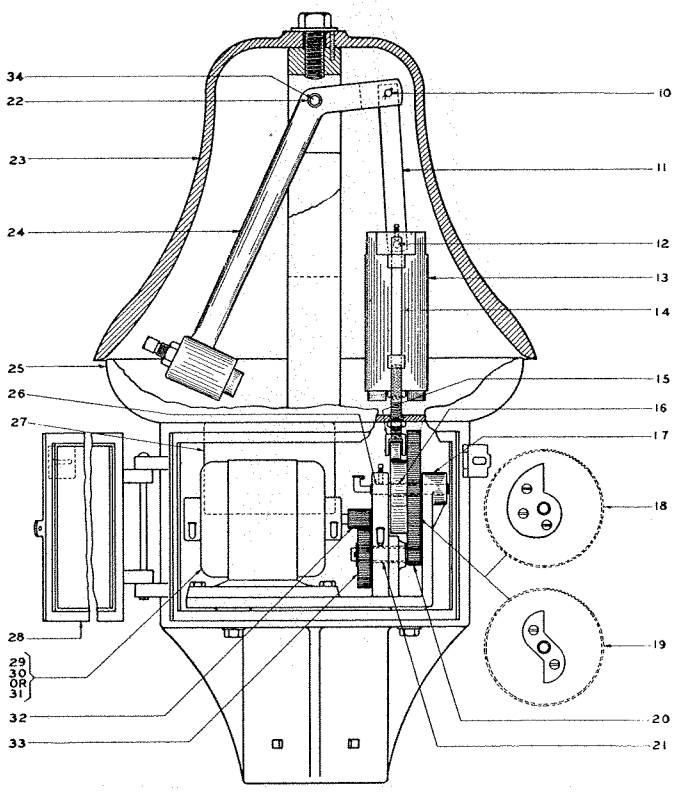
Type AL-50 Motor Driven Locomotive Type Bell

(MADE BEFORE JANUARY 1, 1955)

(Continued)

REPLACEMENT PARTS

Old style with one-piece mechanism housing
See Page 21 for new style 3-piece housing



ORDERING REFERENCE

Specify Plate Number B30, Reference Number and Description

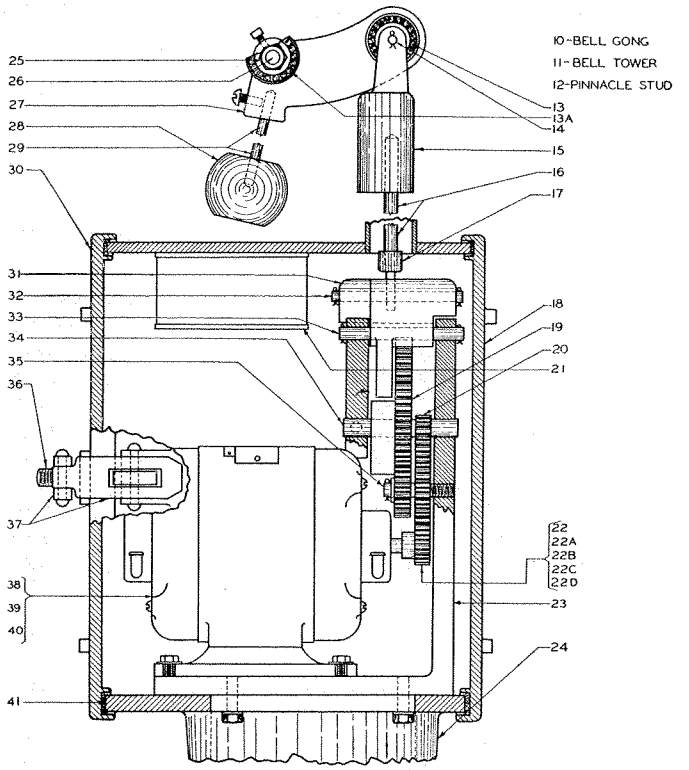
Ref. No.	Description	Piece No.	Ref. No.	Description	Piece No.
10	Connecting link pin	0050–18	**24**	Clapper complete	0050–23
11	Connecting link	0050–26	**25**	Mechanism case	0050–1
12	Operating weight pin	0050–32	**26**	Gear shaft with oil cup	0050–35
13	Operating weight with bumpers	0050–5	**27**	Capacitor for 110 V. motor	0700–210
14	Guide stud	0050–20	**27a**	Capacitor for 220 V. motor	0700–210A
15	Roller assembly	0050–10	**28**	Mechanism case door	0050–36
16	Bushing	0050–16	**29**	D. C. motor (Specify voltage)	Dg. 0050–28
17	Mechanism frame	0050–3	**30**	A. C. motor (Bells purchased after 1/1/37) (Specify voltage and frequency)	Dg. 0050–29
18	Drive gear and single step cam	0050–33			
19	Drive gear and double step cam	0050–34			
20	Shaft gear	0050–24	**31**	A. C. motor (Bells purchased before 1/1/37) (Specify voltage and frequency)	Dg. 0050–30
21	Bushing	0050–15			
22	Bushing	990–13			
23	Gong (Specify cast steel or bell metal)	Dg. 690–11	**32**	Motor pinion	0050–25
			33	Connecting gear	0050–7
			34	Clapper pivot pin	990–31

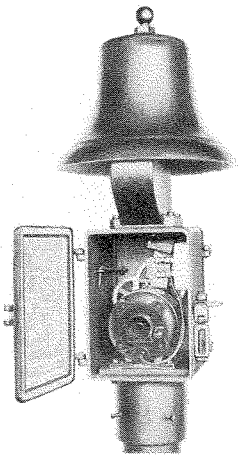
WESTERN RAILROAD SUPPLY COMPANY

Type 444 Locomotive Type Bell

(MANUFACTURE DISCONTINUED)

REPLACEMENT PARTS FOR IMPROVED TYPE





ORDERING REFERENCE

Specify Plate Number B35, Reference Number and Description

Ref. No.	Description	Piece No.	Ref. No.	Description	Piece No.
10	Bell gong	1409–1	**25**	Thin hexagon nut	1410–51
11	Bell tower	1408–1	**26**	Hammer crank shaft	1410–6
12	Pinnacle stud	1409–4	**27**	Hammer crank	1408–2
13	Ball bearing (¼″ I. D.)	1410–53	**28**	Hammer ball	1407–3
13a	Ball bearing (⅜″ I. D.)	1410–52	**29**	Hammer rod	1407–4
14	Counterweighted jaw pin	1410–8	**30**	Front door complete	1407–5
15	Counterweighted jaw	1408–3	**31**	Operating weight	1409–5
16	Up-and-down rod	1410–5	**32**	Shaft for up-and-down rod lug	1410–10
17	Up-and-down rod lug	1410–9	**33**	Operating weight shaft	1410–7
18	Back door complete	1407–6	**34**	Drive gear shaft	1410–17
19	Drive gear	1410–1	**35**	Intermediate gear stud	1508–14
20	Intermediate gear and pinion	1410–16	**36**	Locking eyebolt	1410–11
21	Capacitor for 110 V. motor	0700–210	**37**	Locking nut and hasp	1410–31
21a	Capacitor for 220 V. motor	0700–210A	**38**	A. C. motor (Bells before Serial No. 331) (Specify voltage and frequency)	Dg.1410–38
22	Motor pinion 12 teeth 5/16″ bore	1410–15			
22a	Motor pinion 14 teeth 5/16″ bore	1410–15A			
22b	Motor pinion 16 teeth 5/16″ bore	1410–15B	**39**	A. C. motor (Bells after Serial No. 330) (Specify voltage and frequency)	Dg.1410–37
22c	Motor pinion 20 teeth 5/16″ bore	1410–15C			
22d	Motor pinion 14 teeth ⅜″ bore	1410–15D			
23	Mechanism frame	1411–1	**40**	D. C. motor (Specify voltage)	Dg.1410–35
24	Bell case	1406	**41**	Door packing strip	1407–7

NOTE: For replacement parts for old style bell with small motor see Plate B56.

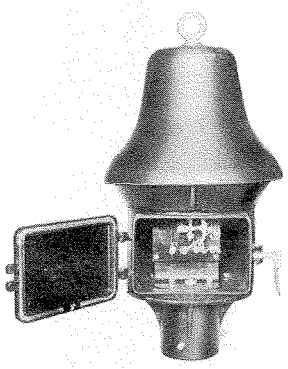
WESTERN RAILROAD SUPPLY COMPANY

Type 990 Locomotive Type Bell

16″ LOCOMOTIVE GONG

For Use on 4.5 to 12 volts D.C.

Approximately 52 Strokes Per Minute



Type 990 Locomotive Type Bell is now made with improved 3-piece mechanism housing.

The movement consists of a solenoid electro-magnet, operating contacts and a switching device which are contained in separate water-tight compartments. The armature of the solenoid magnet operates a single pole switch which makes and breaks the circuit quickly without loss of power. When the circuit is closed, the armature is attracted and the snap switch, actuated by the rocker arm, breaks the circuit just as the heavy hammer strikes a powerful blow on the inside of the gong. As the circuit is broken, the armature and hammer return by gravity to normal position.

Type 990 bell is furnished with a solenoid coil of correct resistance value for operating voltage which must be specified. Four standard voltages are listed below. Two socket sizes are available to accommodate 4″ and 5″ pipe posts. Specify post diameter.

ORDERING REFERENCE

Specify Plate Number B40, Reference Number and Description

Ref. No.	Description	Dwg. Ref.
1	Type 990 Locomotive Type Bell complete, for 4.5 Volt D. C. operation and for mounting on top of 4″ pipe post	990C–5
2	Type 990 Locomotive Type Bell complete, for 6 Volt D. C. operation and for mounting on top of 4″ pipe post	990C–6
3	Type 990 Locomotive Type Bell complete, for 8 Volt D. C. operation and for mounting on top of 4″ pipe post	990C–8
4	Type 990 Locomotive Type Bell complete, for 10–12 Volt D. C. operation and for mounting on top of 4″ pipe post	990C–10
5	Type 990 Locomotive Type Bell complete, for 4.5 Volt D. C. operation and for mounting on top of 5″ pipe post	990F–5
6	Type 990 Locomotive Type Bell complete, for 6 Volt D. C. operation and for mounting on top of 5″ pipe post	990F–6
7	Type 990 Locomotive Type Bell complete, for 8 Volt D. C. operation and for mounting on top of 5″ pipe post	990F–8
8	Type 990 Locomotive Type Bell complete, for 10–12 Volt D. C. operation and for mounting on top of 5″ pipe post	990F–10

WESTERN RAILROAD SUPPLY COMPANY

Type 990 Locomotive Type Bell

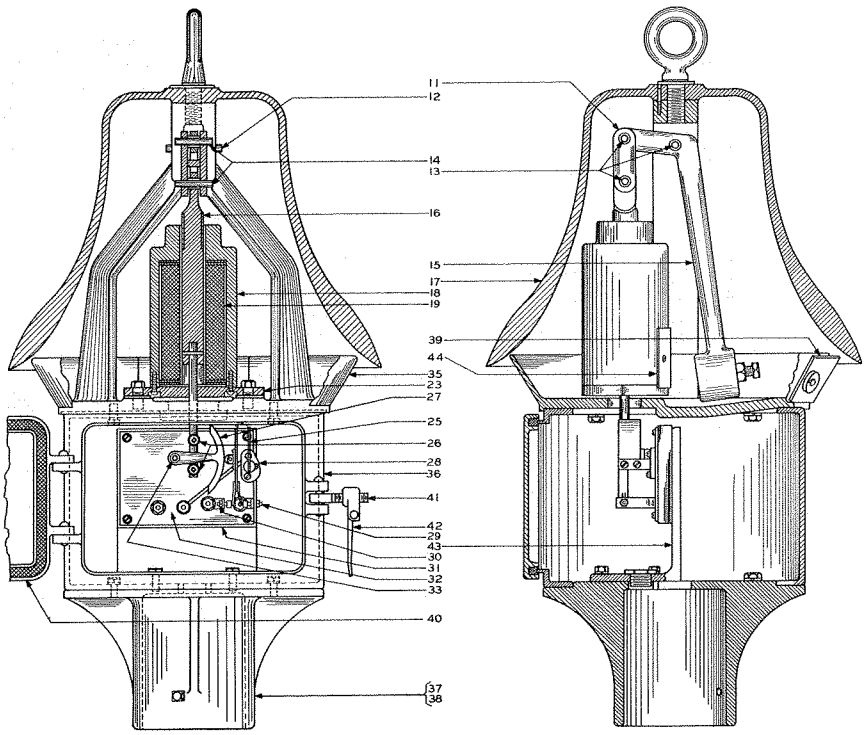
(MADE AFTER JANUARY 1, 1957)

(Continued)

REPLACEMENT PARTS

New style with 3-piece mechanism housing.

See Page 26 for old style with one-piece housing.



ORDERING REFERENCE

Specify Plate Number B40, Reference Number, and Description

Ref. No.	Description	Piece No.	Ref. No.	Description	Piece No.
11	Armature connecting link	990-8	28	Adjustment stud	990-25
12	Clapper pivot pin	990-31	29	Flasher contact post	990-22
13	Clapper bushing	990-13	30	Magnet contact post	990-21
14	Connecting link pin	990-33	31	Slate base drilled and enameled	990-28
15	Bell clapper complete	990-9A	32	Slate base mechanism complete	990-100
16	Armature complete	990-121	33	Circuit breaker pivot	990-301
17	Steel Gong	990-11	35	Gong Support	990-150B
17a	Bell metal gong	990-11B	36	Mechanism housing	990-152A
18	Magnet shell	990-51	37	Base socket for 4" pipe post	990-154B
19a	Magnet Spool Complete 4.5 V	990-29-5	38	Base socket for 5" pipe post	990-155B
19b	Magnet Spool Complete 6 V	990-29-6	39	Hand hole cover with screws	990-156B
19c	Magnet Spool Complete 8 V	990-29-8	40	Housing cover with packing	990-151B
19d	Magnet Spool Complete 10-12 V	990-29-10	41	Hasp eye bolt	1410-11
23	Magnet shell base with bolts	990-61	42	Locking hasp	1410-31
25	Contact spring complete	990-26	43	Mechanism mounting angle	990-158
26	Switch operating stud	990-19	44	Rubber bumper	990-52
27	Circuit breaker arm complete	990-101			

WESTERN RAILROAD SUPPLY COMPANY

Type 990 Locomotive Type Bell

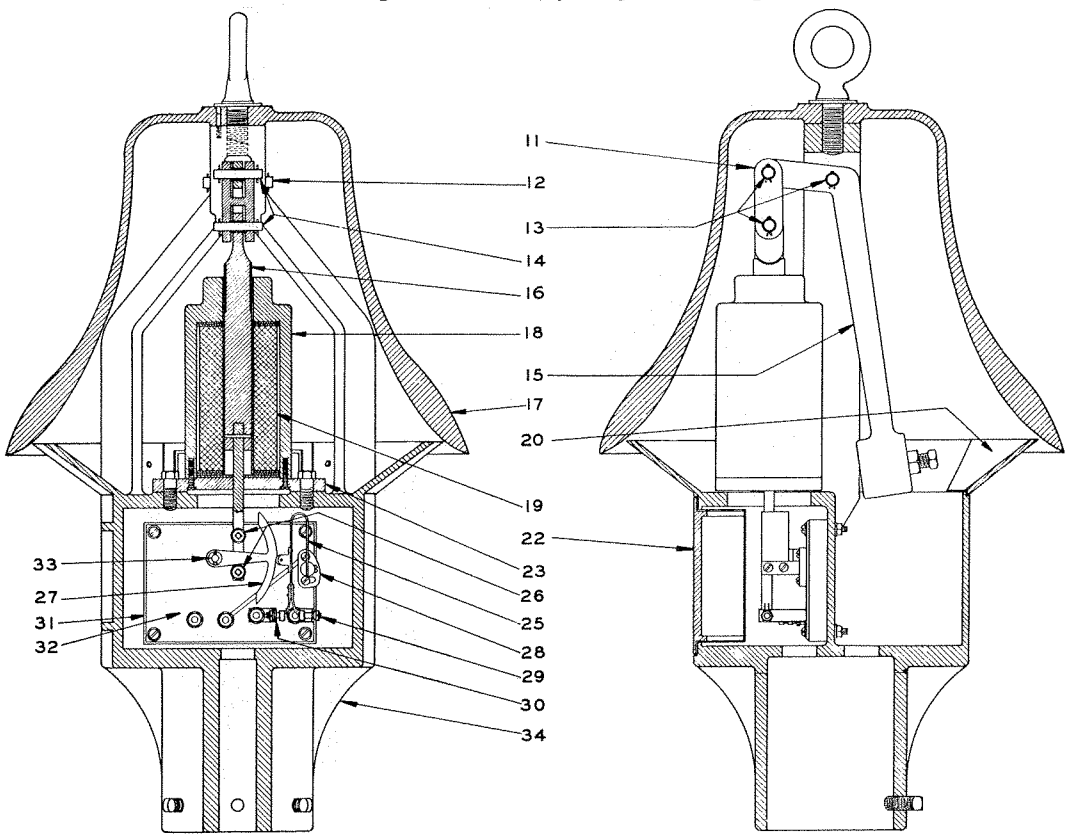
(MADE BEFORE JANUARY 1, 1955)

(Continued)

REPLACEMENT PARTS

Old style with one-piece mechanism housing

See Page 25 for new style 3-piece housing.



ORDERING REFERENCE

Specify Plate Number B40, Reference Number, and Description

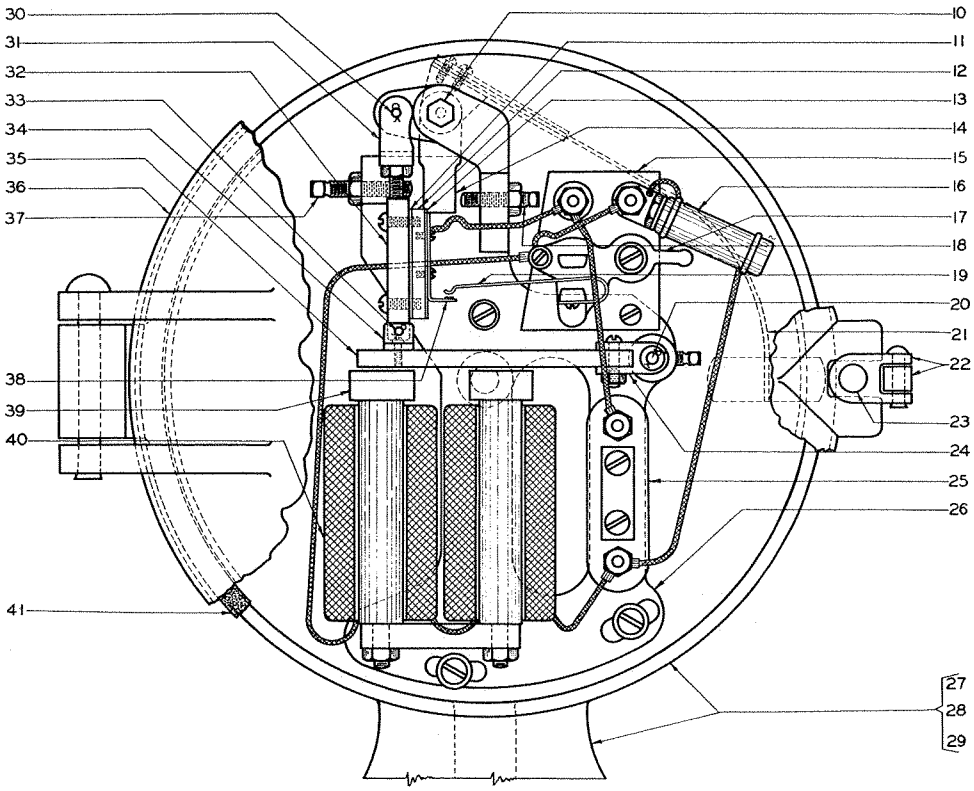
Ref. No.	Description	Piece No.	Ref. No.	Description	Piece No.
11	Armature connecting link	990-8	23	Magnet shell base with bolts	990-61
12	Clapper pivot pin	990-31	25	Contact spring complete	990-26
13	Clapper bushing	990-13	26	Switch operating stud	990-19
14	Connecting link pin	990-33	27	Circuit breaker arm complete	990-101
15	Bell clapper complete	990-9A	28	Adjustment stud	990-25
16	Armature complete	990-121	29	Flasher contact post	990-22
17	Gong (Specify Bell Metal or Cast Steel)	Dg. 990-11	30	Magnet contact post	990-21
18	Magnet shell	990-51	31	Slate base drilled and enameled	990-28
19	Magnet spool complete	990-29	32	Slate base mechanism complete	990-100
20	Hand hole cover with bolts	990-41	33	Circuit breaker pivot	990-301
22	Door for mechanism case	990-2A	34	Mechanism case only	990-1

WESTERN RAILROAD SUPPLY COMPANY

Type 1220 Highway Crossing Bell

(MANUFACTURE DISCONTINUED)

REPLACEMENT PARTS



ORDERING REFERENCE

Specify Plate Number B45, Reference Number and Description

Ref. No.	Description	Piece No.	Ref. No.	Description	Piece No.
10	Trunion screw	1222–1	27	Bell case for 3½″ pipe post	1216–4
11	Insulation strip	1222–4	28	Bell case for 4″ pipe post	1216–5
12	Insulation block	1222–2	29	Bell case for 3″ pipe post	1216–6
13	Insulation strip	1222–3	30	Jaw pin	1221–8
14	Oscillator	1221–7	31	Screw jaw	1221–2
15	Terminal plate	1222–6	32	Vertical link	1221–3
16	Non-arcing resistance	1222–9	33	Link bracket pin	1221–9
17	Contact finger support	1209–11	34	Link bracket	1221–4
18	Stop screw with nut		35	Armature	1221–5
19	Contact finger	1222–10	36	Bell case cover	1217–1
20	Armature pin	1222–5	37	Stop screw with nut	
21	Hammer with reinforcements	1222–7	38	Moving contact	1210–5
22	Locking nut and hasp	1410–31	39	Magnet core	1221–6
23	Locking eye bolt	1410–11	40	Magnet coil (5 ohms resistance for 10 ohm 6-8 volt bell unless otherwise specified)	1222–8
24	Armature bearing	1221–10			
25	Porcelain terminal	10565–14			
26	Mechanism base	1221–1	41	Gray felt door packing strip	1217–2

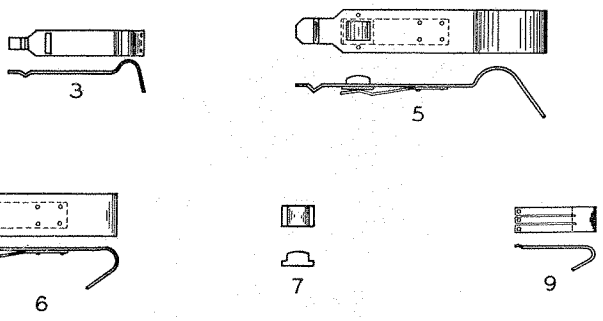
See Plate B5, for additional parts not shown.

WESTERN RAILROAD SUPPLY COMPANY

Style "A" "AA" and "D" Highway Crossing Bells

MANUFACTURE DISCONTINUED

CONTACT REPLACEMENT PARTS



Shown above are replacement parts comprising contacts and springs. All other parts have been discontinued and are no longer available.

For convenience the Reference Numbers appearing on older issues of this catalog are cross-referenced with the Description and Piece Numbers in the table below. Specify type of Bell when ordering these parts.

ORDERING REFERENCE

Specify Plate Number B50, Reference Number and Description

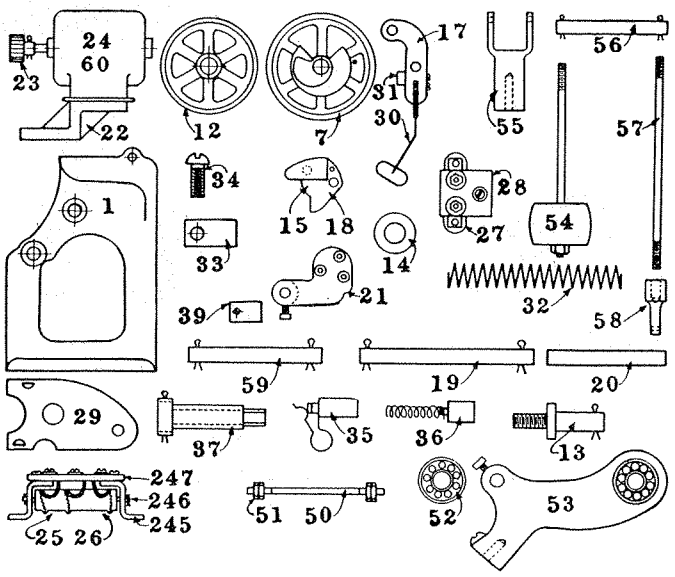
Shown Above Ref. No.	Ref. No.	Description	Piece No.
"A" or "A-A"	**"D"**		
3	**12**	Coin silver front Contact spring	A–66
5	**24**	Contact complete with coplite Contact block	A–6–C
6	**22**	Contact complete with coplite Contact block	A–7–C
7	**23**	Contact block only, for A–6–C and A–7–C Contact	A–666–D
9	**9**	Coin silver back Contact spring	A–77

WESTERN RAILROAD SUPPLY COMPANY

Highway Crossing Bell Nos. 444 and 555

OLD TYPES WITH SMALL MOTOR
(MANUFACTURE DISCONTINUED)

REPLACEMENT PARTS

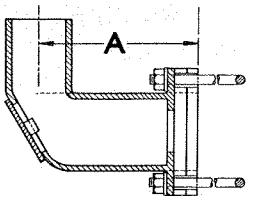


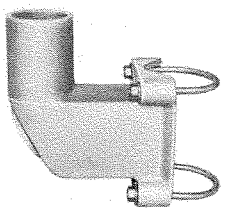
ORDERING REFERENCE
Specify Plate Number B56, Reference Number and Description

Ref. No.	Description	Ref. No.	Description
Parts Common to both No. 444 and No. 555 Bells			
1	Movement frame.	25	Right hand voltage control resistance.
7	Drive gear and cam complete.	26	Left hand speed control resistance.
12	Intermediate gear and pinion.	27	Porcelain terminal.
13	Stud for intermediate gear.	28	Fibre terminal plate.
14	Washer for intermediate gear.	35	Brush connection clip for A. C. motor.
15	Operating weight for No. 444 bell.	36	Motor brush and tension spring.
18	Operating weight for No. 555 bell.	37	Brush holder sleeve.
19	Shaft for operating weight.	39	Brush tension plug for D. C. motor.
20	Drive gear shaft.	60	6-8 volt D. C. motor.
21	Drive gear shaft support.	245	Resistance unit support.
22	Motor bracket.	246	Resistance unit support shaft.
23	Motor pinion.	247	Resistance unit terminal plate.
24	110 volt A. C. motor (specify frequency).		
Parts for No. 444 Bell Only			
50	Hammer crank shaft.	55	Counter weight jaw.
51	Hexagon nut for hammer crank shaft.	56	Shaft for counter weight jaw.
52	Ball bearing for hammer crank shaft.	57	Up-and-down rod.
53	Hammer crank with ball bearing.	58	Up-and-down rod lug.
54	Hammer, complete as shown.	59	Shaft for up-and-down rod lug.
Parts for No. 555 Bell Only			
17	Hammer support.	32	Spring.
29	Dust shield.	33	Spring rocker plug.
30	Hammer and reinforcements only.	34	Supporting screw for rocker plug.
31	Spring plug (hammer end).		

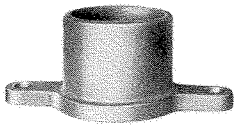
WESTERN RAILROAD SUPPLY COMPANY

Mounting Fittings for Highway Crossing Bells

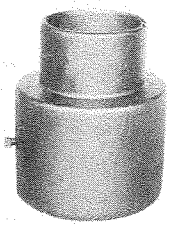




Type 873
Gooseneck Bracket



Adaptor for Mounting
Bells on Flat Surfaces



Reducer
5″ to 4″ I.D. Pipe

ORDERING REFERENCE

Specify Plate Number B60, Reference Number, and Description

Ref. No.	Description	Piece No.
1A	Type 873 Gooseneck Bracket Complete for 4″ I.D. Pipe Mounting. Dimension "A"—8⅝″. (See Note 1)	873-29A
1B	Type 873 Gooseneck Bracket Complete for 4″ I.D. Pipe Mounting. Dimension "A"—11⅛″. (See Note 1)	873-29B
2A	Type 873 Gooseneck Bracket Complete for 3½″ I.D. Pipe Mounting. Dimension "A"—8⅝″. (See Note 1)	873-28A
2B	Type 873 Gooseneck Bracket Complete for 3½″ I.D. Pipe Mounting. Dimension "A"—11⅛″. (See Note 1)	873-28B
3A	Type 873 Gooseneck Bracket Complete for 5″ I.D. Pipe Mounting. Dimension "A"—8⅝″. (See Note 1)	873-30A
3B	Type 873 Gooseneck Bracket Complete for 5″ I.D. Pipe Mounting. Dimension "A"—11⅛″. (See Note 1)	873-30B
4A	Type 873 Gooseneck Bracket Complete for 3″ I.D. Pipe Mounting. Dimension "A"—8⅝″. (See Note 1)	873-27A
4B	Type 873 Gooseneck Bracket Complete for 3″ I.D. Pipe Mounting. Dimension "A"—11⅛″. (See Note 1)	873-27B
5A	Type 873 Gooseneck Bracket Complete for 6″ I.D. Pipe Mounting. Dimension "A"—8⅝″. (See Note 1)	873-31A
5B	Type 873 Gooseneck Bracket Complete for 6″ I.D. Pipe Mounting. Dimension "A"—11⅛″. (See Note 1)	873-31B
6A	Type 873 Gooseneck Bracket Complete for 8″ I.D. Pipe Mounting. Dimension "A"—8⅝″. (See Note 1)	873-32A
6B	Type 873 Gooseneck Bracket Complete for 8″ I.D. Pipe Mounting. Dimension "A"—11⅛″. (See Note 1)	873-32B
9	Reducer for 5″ to 4″ I.D. Pipe	990-63
10	Adaptor for Mounting Bell with Socket for 4″ I.D. Pipe on Top of any Flat Surface	216-2
11	Adaptor for Mounting Bell with Socket for 3″ I.D. Pipe on Top of any Flat Surface	216-3

NOTE 1: Gooseneck Brackets are furnished for bell sockets 4½″ I.D. Gooseneck Brackets may be used with bolts or lag screws to mount bells on the side of buildings or other vertical surfaces.

WRRS

Section
D

Flashing Light
Highway Crossing Signals

WESTERN RAILROAD SUPPLY COMPANY

DIVISION OF WESTERN INDUSTRIES, INC.

MANUFACTURERS

GENERAL OFFICES and FACTORY

2742 WEST 36TH PLACE CHICAGO 32, ILLINOIS

●

District Offices in

NEW YORK 7 PHILADELPHIA 2 SAN FRANCISCO 5

ST. LOUIS 1 HOUSTON 23 MONTREAL 3

Printed in U.S.A.

3M-1960

Section D

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NOTE:

For ordering references for replacement parts for Crossing Signal Light Units and Junctionbox Crossarms of the designs no longer manufactured, see Catalog Section D, Part No. 2.

GENERAL INFORMATION

The Flashing Light Highway Crossing Signals as manufactured by the Western Railroad Supply Company represent the latest improvement in design and meet all A.A.R. Specifications.

Although there are innumerable combinations of signal Assemblies, the types illustrated in this catalog are most popular and meet most requirements. Each type of signal is available for One-Way or Two-Way Indication. The One-Way Indication signal is equipped with two crossing signal light units; the Two-Way Indication signal with four crossing signal light units.

The signals are furnished with either of two types of Crossing Signal Light Units. The Type 818 Light Units are equipped with a receptacle for Medium Screw Base electric lamps and the Type 950A Light Units have receptacles to accommodate Single Contact, Bayonet Base, electric lamps having light center length of 1 1/4 inch.

The Type 818 Crossing Signal Light Unit has a Parabolic Glass reflector with the medium screw base receptacle mounted in the center of the back of the reflector. This type light unit is designed for mounting on the Type 950-818 Junctionbox Crossarm or the Type 855-20 Bracket. It is generally used where signals are operated from commercial power source at commercial voltage.

The Type 950A-201 Crossing Signal Light Unit is constructed entirely of Aluminum and has a most efficient Mangin mirror type of glass reflector. The lamp receptable is supported by a formed metal bracket, fully insulated from the housing and so positioned as to insure exact focus of the lamp filament with relation to the reflector. The filament is also held in line with the side light openings which are fitted with clear glass discs, unless otherwise specified.

The Type 950-818 Junctionbox Crossarm is used for mounting Type 818-103 Light Units. Each Light Unit is suspended from the arm by an individual cast iron link, 1 inch in cross section. This link provides adjustment of the light beam alignment of each individual light unit in both the horizontal and vertical plane; each adjustment being independent of the other. Means for locking each adjustment in position is provided. The Crossing Signal Light Unit and Junctionbox Crossarm are so constructed that this small link is the weakest part of the assembly and it will be the first to break should a light unit be struck by the overhang of a truck body, thus limiting the possible damage. The links are replaceable at slight cost.

The Number 950 types of Junctionbox Crossarms are constructed of cast Aluminum and contain a six-unit terminal strip; 12 binding posts. Each Light Unit is attached to a suspension bracket which provides means of adjustment of the light beam alignment. Adjustment can be made of each light unit independently of the other units and the horizontal and vertical alignment can be adjusted and locked in place, independently.

Roundels furnished are the A. A. R. Standard, 8-3/8"diameter, Red, with photometric rating for color of 220-300. Listings on the several Plates, and below, show the types available. No. 5323 Roundels, recommended by the A. A. R., Signal Section, for general use, are furnished unless other type is specified on the order.

Phantom Suppressors and Adaptors can be supplied for application to the Type 950-201 Flashing Light Unit, for use in locations where the rising or the setting sun may cause reflected phantom indications. Information thereon will be furnished on request.

The NO TURN Signal, shown on Plate D495A, of this Catalog Section, is often used in conjunction with Flashing Light Signals at locations where mounting of additional flashing light units would not provide suitable added protection. It is the safest method of protecting traffic on a street or highway running parallel to a railroad without interfering with traffic not crossing the railroad.

No attempt has been made to show in this Catalog Section all possible combinations of Flashing Light Highway Crossing Signals. We will gladly furnish plans and information on any other type of signal not shown.

The Western Railroad Supply Company is the largest manufacturer of Highway-Railroad Grade Crossing Signals and Devices. Write for catalogs and Bulletins covering Crossing Gates, Combination Crossing Gate and Flashing Light Signals, Rotating Disc Signals, Crossing Bells and Crossing Signs, as well as Signaling, Telephone and Telegraph devides and accessories.

Note: Roundels Available for Flashing Lights Units are:
CL-17, 30° Horizontal Spread.
5319, 160° Horizontal Spread, 12° Down Deflection.
5321, 20° Deflecting.
5323, 30° Horizontal Spread, 15° Down Deflection.
5327, 20° Horizontal Spread, 32° Down Deflection.
5332, 70° Horizontal Spread.
5333, Diffusion-deflection Type, With Horizontal and Downward Spread.

INFORMATION DESIRED WITH INQUIRY FOR COMPLETE HIGHWAY CROSSING INSTALLATION

We are pleased to furnish engineering information and to quote on requirements for Highway Crossing Installations. Where possible, inquiries should be accompanied with a sketch, or, preferably, a scale track plan showing the location of the highway.

The following information is especially desired:

1 - Specify type of crossing signal:
(A) Standard Flashing Light, (B) Flashing Light with Illuminated STOP sign,. (C) Cantilever Type.

2 - Is "Railroad Crossing" sign required?*

3 - Is number of tracks sign required? If so, advise numeral*

4 - Is "Stop on Red Signal" sign required?**

5 - Advise maximum authorized speed of train movement. (AAR recommendation is 20 seconds warning for fastest train).

6 - What special operating conditions exist within the area?

7 - Specify whether there are any switches within the approach section.

8 - Specify if there is any signal equipment now in place which might be affected by this installation.

9 - Specify whether Diesel-Electric or electric propulsion railway.

10 - What electric power is available for operation of signals? If D. C., specify voltage; if A. C., specify voltage and frequency.

11 - Specify whether stand-by electric service is required. (Can continuity of available service be depended upon?).

12 - Specify weight and type of rail and whether four or six hole insulated rail joints.

13 - Specify if track ballast is rock, gravel, sand, cinders, or other material.

14 - State whether highway is paved. Width of highway or travelled portion. Specify class of paving.

* Available in cast iron, Reflector Unit Type, both synthetic enamel and vitreous enamel finish and Reflex-Reflecting Sheet Type, on either steel or aluminum.

** Not available in cast iron. Otherwise same as *.

Speed Table For Crossing Signal Starts

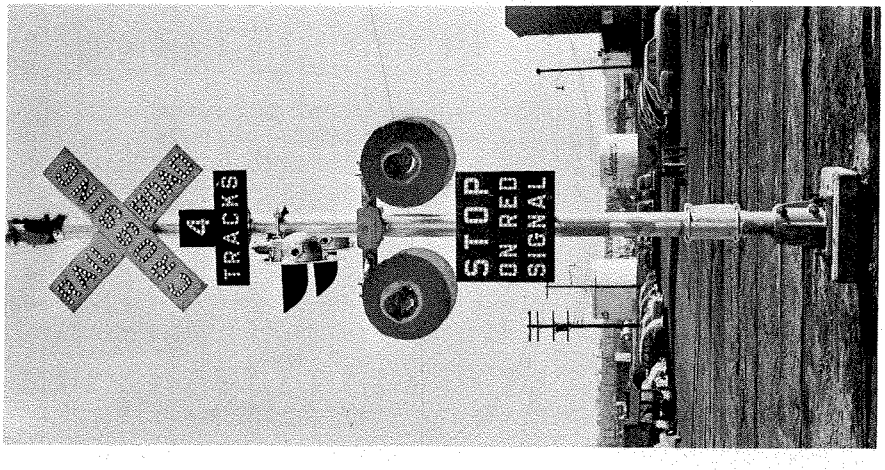
Seconds		10	15	20	25	30	35	40	45	50	55	60
Miles Per Hour	Feet Per Second	Distance Traveled in Feet *										
1	1.46	14.6	22.0	29.3	36.6	44.0	51.3	58.6	66.0	73.3	80.6	88.0
2	2.93	29.3	44.0	58.6	73.3	88.0	102.6	117.3	132.0	146.6	161.3	176.0
3	4.4	44	66	88	110	132	154	176	198	220	242	264
4	5.86	58.6	88	117.3	146.6	176	205.3	234.6	264	293.3	322.6	352
5	7.3	73	110	147	183	220	257	293	330	367	403	440
10	14.6	146	220	293	366	440	513	587	660	733	807	880
15	22.0	220	330	440	550	660	770	880	990	1,100	1,210	1,320
20	29.3	293	440	587	733	880	1,027	1,173	1,320	1,467	1,613	1,760
25	36.7	367	550	733	917	1,100	1,283	1,467	1,650	1,833	2,017	2,200
30	44.0	440	660	880	1,100	1,320	1,540	1,760	1,980	2,200	2,420	2,640
35	51.3	513	770	1,027	1,283	1,540	1,797	2,053	2,310	2,567	2,823	3,080
40	58.7	587	880	1,173	1,467	1,760	2,053	2,347	2,640	2,933	3,227	3,520
45	66.0	660	990	1,320	1,650	1,980	2,310	2,640	2,970	3,300	3,630	3,960
50	73.3	733	1,100	1,467	1,833	2,200	2,567	2,933	3,300	3,667	4,033	4,400
55	80.7	807	1,210	1,613	2,017	2,420	2,833	3,227	3,630	4,033	4,437	4,840
60	88.0	880	1,320	1,760	2,200	2,640	3,080	3,520	3,960	4,400	4,840	5,280
65	95.3	953	1,430	1,907	2,383	2,860	3,337	3,813	4,290	4,767	5,243	5,720
70	102.7	1,027	1,540	2,053	2,567	3,080	3,593	4,107	4,620	5,133	5,647	6,160
75	110.0	1,100	1,650	2,200	2,750	3,300	3,850	4,400	4,950	5,500	6,050	6,600
80	117.3	1,173	1,760	2,347	2,933	3,520	4,107	4,693	5,280	5,867	6,453	7,040
85	124.7	1,247	1,870	2,493	3,117	3,740	4,363	4,987	5,610	6,233	6,875	7,480
90	132.0	1,320	1,980	2,640	3,300	3,960	4,620	5,280	5,940	6,600	7,260	7,920
95	139.3	1,393	2,090	2,787	3,483	4,180	4,877	5,573	6,270	6,967	7,663	8,360
100	146.7	1,467	2,200	2,933	3,667	4,400	5,133	5,867	6,600	7,333	8,067	8,800
105	154.0	1,540	2,310	3,080	3,850	4,620	5,390	6,160	6,930	7,700	8,470	9,240
110	161.3	1,613	2,420	3,227	4,033	4,840	5,647	6,453	7,260	8,067	8,873	9,680
115	168.6	1,686	2,530	3,373	4,217	5,060	5,903	6,747	7,590	8,434	9,277	10,120
120	176.0	1,760	2,640	3,520	4,400	5,280	6,160	7,040	7,920	8,800	9,680	10,560
125	183.3	1,833	2,750	3,667	4,583	5,500	6,417	7,334	8,250	9,167	10,084	11,000
130	190.7	1,907	2,860	3,813	4,767	5,720	6,673	7,627	8,580	9,534	10,487	11,440

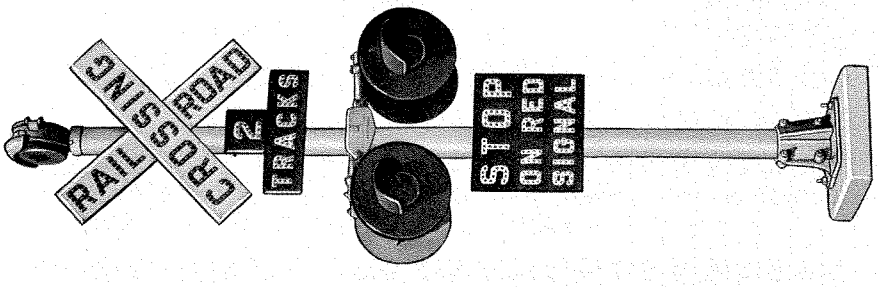
NOTE: Where length of track circuit is known time in seconds can be determined by dividing its length in feet by "Feet Per Second" at train speed selected.

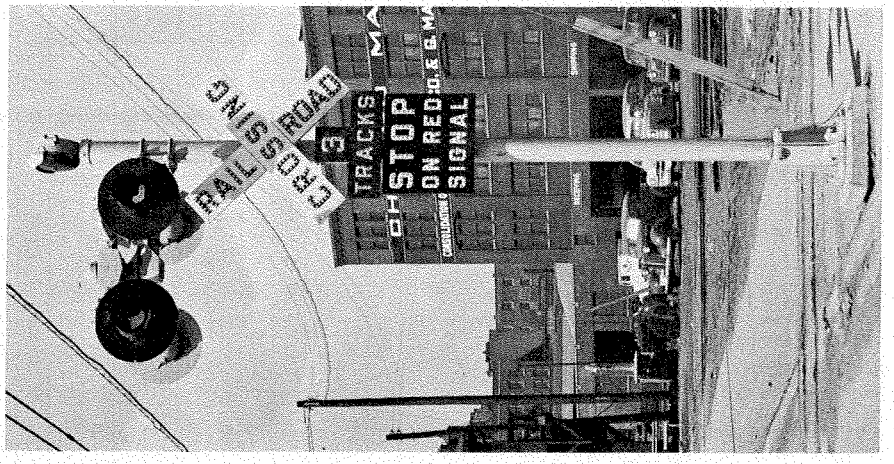
* Does not allow for drop-away time of relays.

1960

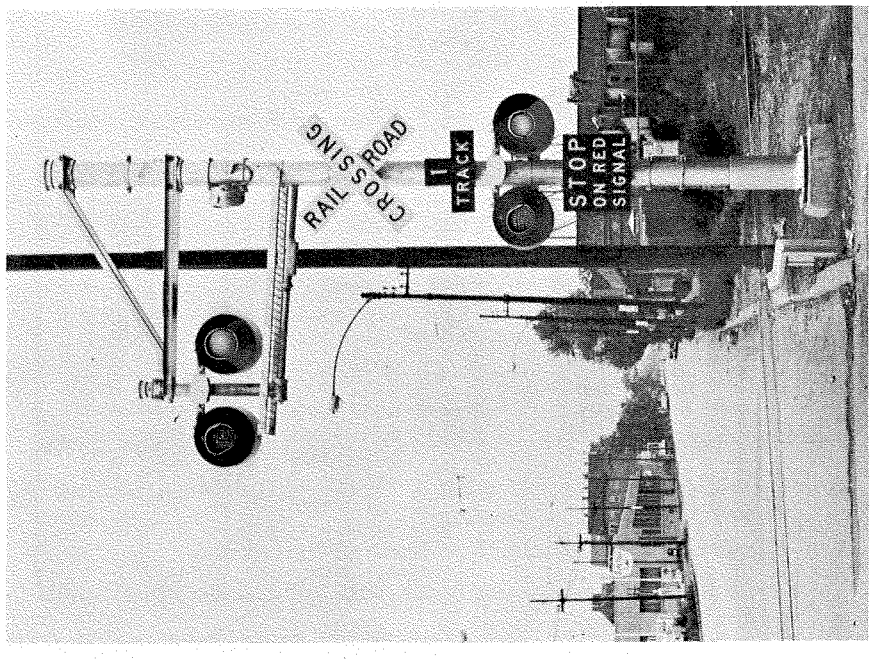
WESTERN RAILROAD SUPPLY COMPANY


RAIL ROAD CROSSING
4
TRACKS
STOP
ON RED
SIGNAL


RAIL ROAD CROSSING
2
TRACKS
STOP
ON RED
SIGNAL


RAIL ROAD CROSSING
3
TRACKS
STOP
ON RED
SIGNAL

RAIL ROAD CROSSING
8 TRACKS
STOP ON RED SIGNAL

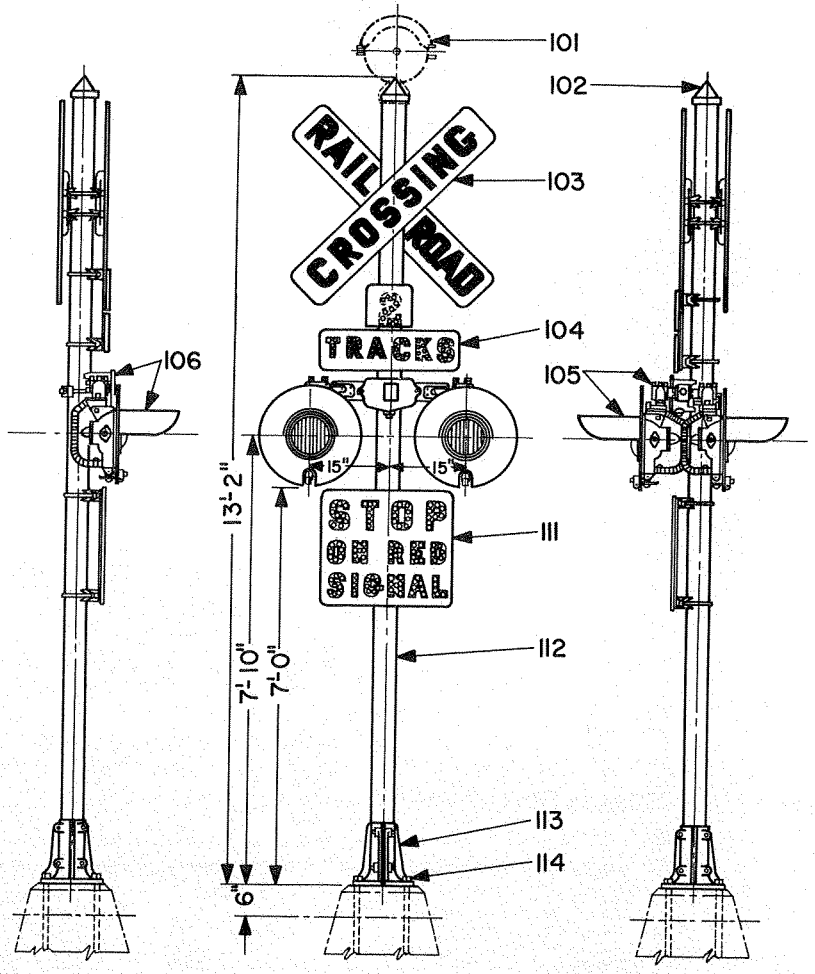

RAIL ROAD CROSSING
1 TRACK
STOP ON RED SIGNAL

Flashing Light Highway Crossing Signals with Type 818-103 Light Units

(Medium Screw Base Receptacle)

ONE-WAY OR TWO-WAY INDICATIONS

Signal A-471



ONE WAY INDICATION

TWO WAY INDICATION

Signals will be furnished with 4" I. D. Pipe Mast unless 5" I. D. Pipe is specified on order.

NOTE:

1 - For ordering references for this signal complete see following page.
2 - For ordering references for Type 818-103 Crossing Signal Light Unit see Plate D170A.
3 - For ordering references for detail parts of this assembly see Plate D420A.
4 - Dimensions shown can be varied to meet particular requirements.

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WESTERN RAILROAD SUPPLY COMPANY

Flashing Light Highway Crossing Signals with Type 818-103 Light Units

(Medium Screw Base Receptacle)

ONE-WAY OR TWO-WAY INDICATIONS

Signal A-471

THE FOLLOWING INFORMATION MUST BE SPECIFIED:

1 - The Numeral required on Number of Tracks Sign.

2 - Voltage and wattage of Electric Lamps, if required.

3 - Type of Bell, if required.

NOTE:

No. 5323 Red Roundel will be furnished unless other roundel is specified. (See listing below).

Signals will be furnished with 4" I. D. Pipe Mast unless 5" I. D. Pipe is specified on order.

ORDERING REFERENCE

Specify Plate Number D100, Reference Number and Description

Description: Type No. A-471 Flashing Light Highway Crossing Signal

Ref. No.	Indication	Type of Crossing Sign	Type of Track Sign	With or Without Bell
1	Two Way	Cast Iron	Cast Iron	With
3	Two Way	Cast Iron	Cast Iron	Without
5	Two Way	Cast Iron	Reflector	With
7	Two Way	Cast Iron	Reflector	Without
9	Two Way	Reflector	Reflector	With
11	Two Way	Reflector	Reflector	Without
13	One Way	Cast Iron	Cast Iron	With
15	One Way	Cast Iron	Cast Iron	Without
17	One Way	Cast Iron	Reflector	With
19	One Way	Cast Iron	Reflector	Without
21	One Way	Reflector	Reflector	With
23	One Way	Reflector	Reflector	Without
25	Two Way	Reflex-Reflective	Reflex-Reflective	With
27	Two Way	Reflex-Reflective	Reflex-Reflective	Without
29	One Way	Reflex-Reflective	Reflex-Reflective	With
31	One Way	Reflex-Reflective	Reflex-Reflective	Without

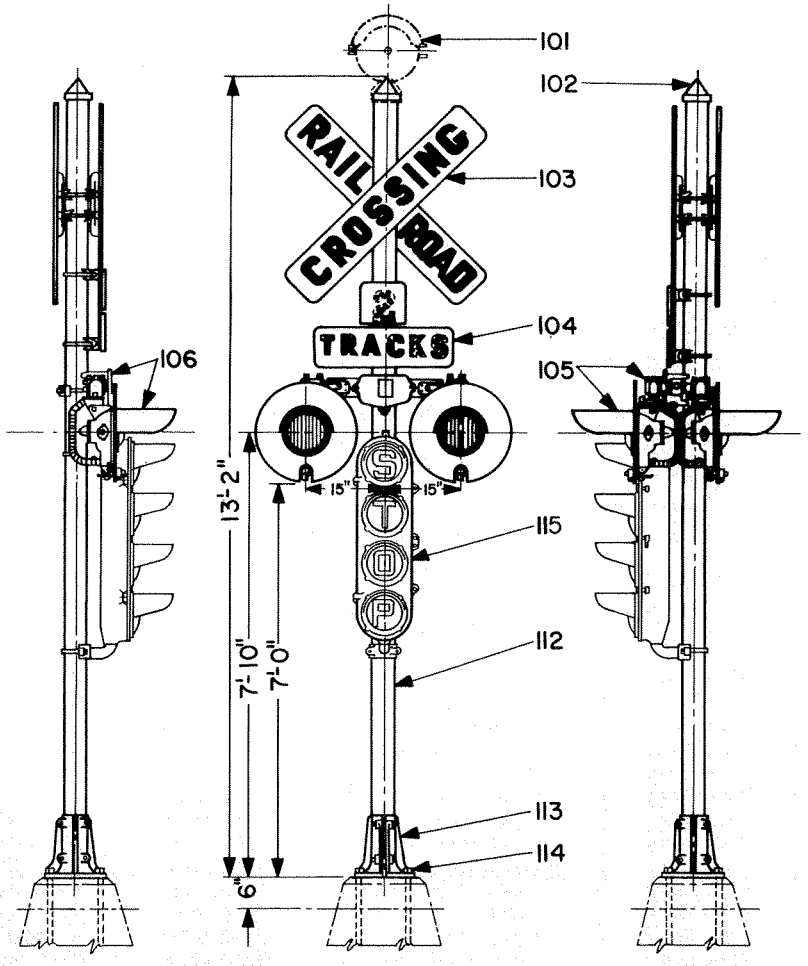
Note: Roundels Available for Flashing Lights Units are:
CL-17, 30° Horizontal Spread.
5319, 160° Horizontal Spread, 12° Down Deflection.
5321, 20° Deflecting.
5323, 30° Horizontal Spread, 15° Down Deflection.
5327, 20° Horizontal Spread, 32° Down Deflection.
5332, 70° Horizontal Spread.
5333, Diffusion-deflection Type, With Horizontal and Downward Spread.

Flashing Light Highway Crossing Signals with Type 818-103 Light Units

(Medium Screw Base Receptacle)

ONE-WAY OR TWO-WAY INDICATIONS

Signal A-472



ONE WAY INDICATION

TWO WAY INDICATION

Signals will be furnished with 4" I. D. Pipe Mast unless 5" I. D. Pipe is specified on order.

NOTE:

1 - For ordering references for this signal complete see following page.
2 - For ordering references for Type 818-103 Crossing Signal Light Unit see Plate D170A.
3 - For ordering references for detail parts of this assembly see Plate D420A.
4 - Dimensions shown can be varied to meet particular requirements.

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WESTERN RAILROAD SUPPLY COMPANY

Flashing Light Highway Crossing Signals with Type 818-103 Light Units

(Medium Screw Base Receptacle)

ONE-WAY OR TWO-WAY INDICATIONS

Signal A-472

THE FOLLOWING INFORMATION MUST BE SPECIFIED:

1 - The Numeral required on Number of Tracks Sign.

2 - Voltage and wattage of Electric Lamps, if required.

3 - Type of Bell, if required.

NOTE:
No. 5323 Red Roundel will be furnished unless other roundel is specified. (See listing below).

Signals will be furnished with 4" I. D. Pipe Mast unless 5" I. D. Pipe is specified on order.

ORDERING REFERENCE

Specify Plate Number D120, Reference Number and Description

Description: Type No. A-472 Flashing Light Highway Crossing Signal

Ref. No.	Indication	Type of Crossing Sign	Type of Track Sign	With or Without Bell
1	Two Way	Cast Iron	Cast Iron	With
3	Two Way	Cast Iron	Cast Iron	Without
5	Two Way	Cast Iron	Reflector	With
7	Two Way	Cast Iron	Reflector	Without
9	Two Way	Reflector	Reflector	With
11	Two Way	Reflector	Reflector	Without
13	One Way	Cast Iron	Cast Iron	With
15	One Way	Cast Iron	Cast Iron	Without
17	One Way	Cast Iron	Reflector	With
19	One Way	Cast Iron	Reflector	Without
21	One Way	Reflector	Reflector	With
23	One Way	Reflector	Reflector	Without
25	Two Way	Reflex-Reflective	Reflex-Reflective	With
27	Two Way	Reflex-Reflective	Reflex-Reflective	Without
29	One Way	Reflex-Reflective	Reflex-Reflective	With
31	One Way	Reflex-Reflective	Reflex-Reflective	Without

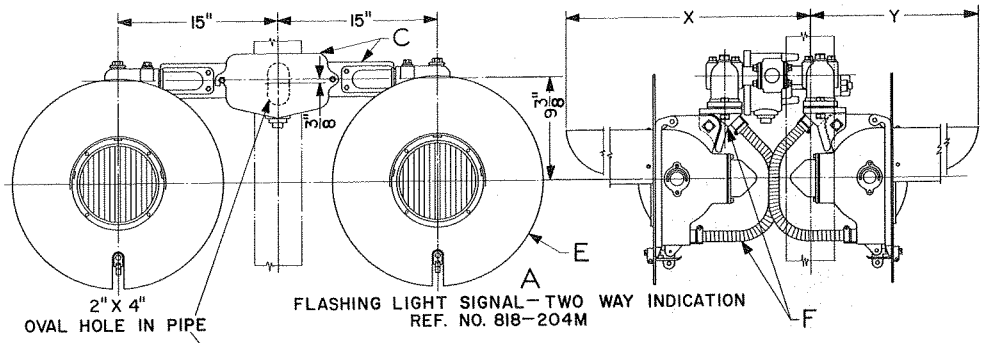
Note: Roundels Available for Flashing Lights Units are:
CL-17, 30° Horizontal Spread.
5319, 160° Horizontal Spread, 12° Down Deflection.
5321, 20° Deflecting.
5323, 30° Horizontal Spread, 15° Down Deflection.
5327, 20° Horizontal Spread, 32° Down Deflection.
5332, 70° Horizontal Spread.
5333, Diffusion-deflection Type, With Horizontal and Downward Spread.

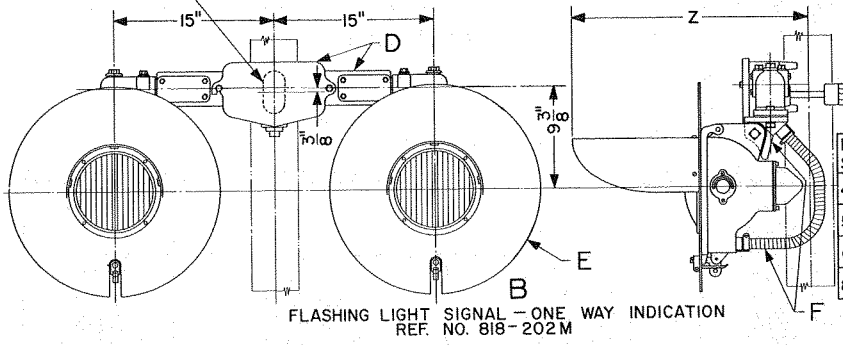
WESTERN RAILROAD SUPPLY COMPANY

Type 818-103 Flashing Light Unit Assembly for both One-Way and Two-Way Indications

(Medium Screw Base Receptacle)

Type No. 818-103 Light Units are equipped with parabolic glass reflectors, 8-3/8" diameter Roundels and Medium Screw Base Receptacles to accomodate A-19 bulb lamps.





PIPE SIZE	DIM. X	DIM. Y	DIM. Z
4" I.D.	26 3/4"	19 3/4"	22 1/2"
5" I.D.	27 7/16"	19 1/16"	23 3/16"
6" I.D.	28 1/16"	18 7/16"	22 13/16"
8" I.D.	29 1/4"	17 1/4"	25"

For mounting on 3 1/2", 4", 5", 6", or 8" I.D. Pipe Mast, as specified.

NOTE:

1 - For ordering references for these assemblies see following page.

2 - For ordering references for replacement parts for the Light Units see Plate D180A.

3 - For ordering references for replacement parts for the Junctionbox Crossarm see Plate D390A.

4 - For ordering references for replacement parts for the Type 818 Light Unit, with Single Contact, Bayonet Base, Lamp Receptacle see Plate D180 in Catalog Section D, Part No. 2.

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WESTERN RAILROAD SUPPLY COMPANY

Type 818-103 Flashing Light Unit Assembly for both One-Way and Two-Way Indications

(Medium Screw Base Receptacle)

THE FOLLOWING INFORMATION MUST BE SPECIFIED:

1 - Voltage and wattage of Electric Lamps, if required.

2 - Inside Diameter of Pipe Mast on which Assembly is to be mounted.

NOTE:
No. 5323 Red Roundels will be furnished unless other roundel is specified. (See listing below).
For Replacement Parts see Plate D180A.

ORDERING REFERENCE
Specify Plate Number D170, Reference Number and Description

Ref. No.	Description	Piece No.
A	Type 818 Flashing Light Unit Assembly, two-way indication, 4 light units with No. 5323 Red Roundels and Lamp Arm with bolts for 4" I. D. Pipe Mast, unless otherwise specified	818-204M
B	Type 818 Flashing Light Unit Assembly, one-way indication, 2 light units with No. 5323 Red Roundels and Lamp arm with bolts for 4" I. D. Pipe Mast, unless otherwise specified	818-202M
C	Junctionbox Lamp Arm, for two-way indication, with bolts for 4" I. D. Pipe Mast, unless otherwise specified	950-818-4
D	Junctionbox Lamp Arm, for one-way indication, with bolts for 4" I. D. Pipe Mast, unless otherwise specified	950-818-2
E	Type 818-103 Flashing Light Unit only (Specify voltage and wattage of electric lamp and roundel desired if other than No. 5323) ...	818-103
F	Adaptor and Flexible Metalic Conduit, for mounting Type 818-103 Light Units on Type 950-3 and 950-5 Junctionbox Crossarm	818-51

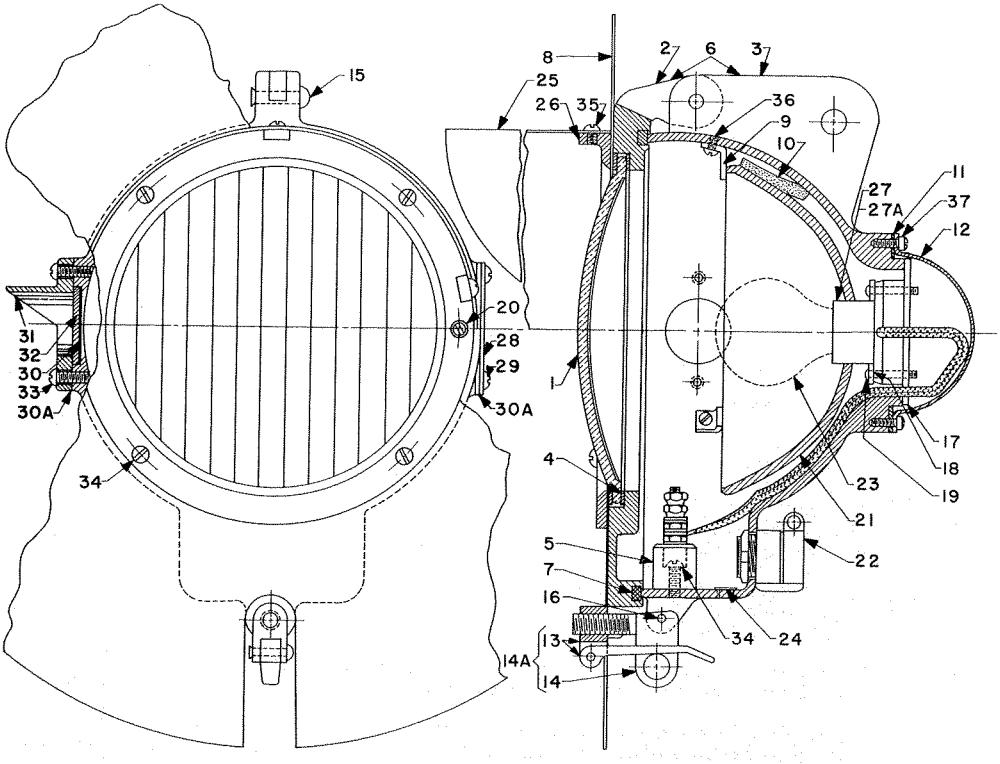
Note: Roundels Available for Flashing Light Units are:
CL-17, 30° Horizontal Spread.
5319, 160° Horizontal Spread, 12° Down Deflection.
5321, 20° Deflecting.
5323, 30° Horizontal Spread, 15° Down Deflection.
5327, 20° Horizontal Spread, 32° Down Deflection.
5332, 70° Horizontal Spread.
5333, Diffusion-deflection Type, With Horizontal and Downward Spread.

WESTERN RAILROAD SUPPLY COMPANY

Type 818-103 Crossing Signal Light Unit

(Medium Screw Base Receptacle)

Replacement Parts



NOTE:

1 - For ordering references for replacement parts for this Light Unit see following page.

2 - For ordering references for replacement parts for the Type 818 Light Units with Single Contact, Bayonet Base, Receptacle, see Plate D180 in Catalog Section D, Part No. 2.

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WESTERN RAILROAD SUPPLY COMPANY

Type 818-103 Crossing Signal Light Unit

(Medium Screw Base Receptacle)

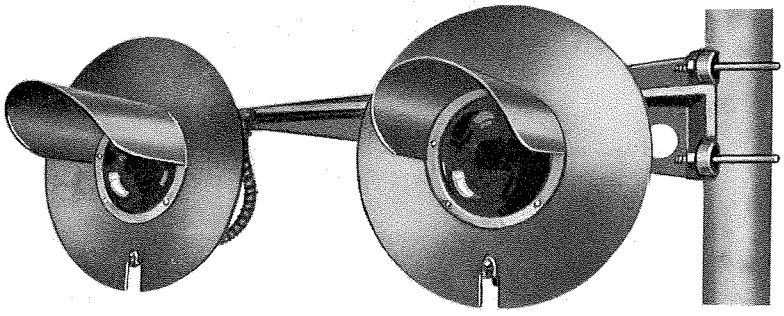
Replacement Parts

ORDERING REFERENCE Specify Plate Number D180 A, Reference Number and Description		
Ref. No.	Description	Piece No.
A	Type 818-103 Crossing Signal Light Unit, complete, Specify Roundel desired, See listing Plate D170A	818-103
1	Roundel, as specified, See Listing Plate D170A	
2	Cover	802
3	Case	801
4	Roundel Gasket	825
5	Terminal Block Complete	1056-9
6	Case and Cover, sub-assembly, includes references 2, 3, 7, 13, 14, 15 and 16	818-12
7	Packing, for cover	880-18
8	Background	950-13C
9	Mirror Retaining Cleat	880-14
10	Reflector Pad	880-15
11	Cap Gasket	803-7
12	Spun Aluminum Cap	803-8
13	Hasp Eye Bolt	1410-11
14	Locking Hasp	1410-31
14 a	Locking Hasp and Bolt, complete	1410-30
15	Rivet, 5/16" x 1 1/4" long, Round Head, Brass	
16	Rivet, 1/4" x 1 1/4" long, Round Head, Brass	
17	Retaining Strip	842-1
18	Clamping Strip	842-2
19	Machine Screw, #8-32 x 1" long, Round Head, Brass	
20	Machine Screw, #10-32 x 3/8" long, Round Head, Brass	
21	Parabolic Glass Reflector	819
22	Squeeze Connector, 3/4", straight	
23	Medium Screw Base Lamp.. (Specify Voltage and Wattage)	
24	Ventilator	818-49
25	Hood	823-1
26	Roundel Retaining Ring	802-1
27	Lamp Receptacle, Medium Screw Base	842
27a	Lamp Receptacle, sub-assembly, includes references 17, 18 19 and 27	842-10
28	Side Light Blank Cover	801-3
29	Machine Screw, 1/4"-20 x 1/2" long, Round Head, Brass	
30	Side Light Gasket	818-48
30a	Side Light Hood Gasket	801-2
31	Side Light Hood	880-23
32	Side Light Glass Disc	811
33	Machine Screw, 1/4"-20 x 3/4" long, Round Head, Brass	
34	Machine Screw, #10-32 x 5/8" long, Round Head, Brass	
35	Machine Screw, 1/4"-20 x 3/8" long, Round Head, Brass	
36	Machine Screw, #8-32 x 5/16" long, Round Head, Brass	
37	Machine Screw, #10-32 x 1/2" long, Fillister Head, Brass	
38	Flexible Conduit, 3/4" x 16" long	818-51

WESTERN RAILROAD SUPPLY COMPANY

Type 855-20 Lamp Arm

FOR MOUNTING LIGHTS ON SAME SIDE OF POLE



Type 855-20 Brackets permit A.A.R. Flashing Light Units to be located in the proper position when obstructions, such as catch basin tops, prevent the conventional installation or utility poles, etc., obstruct the view of the lights of standard signal assemblies.

Type 818-103 Light Units are designed for use of Medium Screw Base electric lamps. (See Plate D180A)

Type 950A-201 Light Units are designed for use of Single Contact, Bayonet Base, electric lamps. (See Plate D380A)

NOTE:

1 - Specify Inside Diameter of pipe on which Arm is to be mounted.

2 - Specify Voltage and Wattage of electric lamps, if required.

3 - Specify type of roundel required (See listing, Plate D170A).

ORDERING REFERENCE

Specify Plate Number D295, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 855-20 Lamp Arm, completed with four Type 818-103 Crossing Signal Light Units.... (Specify per notes 1 to 3).....	855-34
2	Type 855-20 Lamp Arm, complete with two Type 818-103 Crossing Signal Light Units.... (Specify per notes 1 to 3).....	855-32
3	Type 855-20 Lamp Arm, complete with four Type 950-201 Crossing Signal Light Units.... (Specify per notes 1 to 3).....	855-34X
4	Type 855-20 Lamp Arm, complete with two Type 950-201 Crossing Signal Light Units.... (Specify per notes 1 to 3).....	855-32X
5	Type 855-20 Lamp Arm, for mounting four Type 818-103 Crossing Signal Light Units.... (Specify per note 1).....	855-36
6	Type 855-20 Lamp Arm, for mounting two Type 818-103 Crossing Signal Light Units.... (Specify per note 1).....	855-35
7	Type 855-20 Lamp Arm, for mounting four 950A-201 Crossing Signal Light Units.... (Specify per note 1).....	855-36X
8	Type 855-20 Lamp Arm, for mounting two 950A-201 Crossing Signal Light Units.... (Specify per note 1).....	855-35X

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WESTERN RAILROAD SUPPLY COMPANY

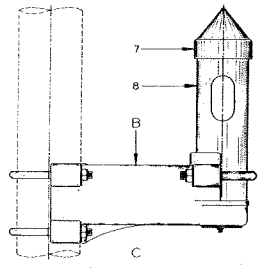
Supporting Brackets
Type 3565-267 and Type 3567-367

For mounting Crossing Signal Light Units, with standard Junctionbox Crossarms, at one side of the mast, as necessitated by obstructions to the view, or for mounting extra light units for warnings along side roads, etc.

The Type 3565-367 Supporting Bracket is of cast iron, designed for mounting on 5" mast, and provides a 15" offset of the dowel mast.

The Type 3565-267 Supporting Bracket consists of castings and a length of 4" I. D. pipe, which may be varied in length, to provide an offset of the dowel mast, of 18 1/2, minimum, up to 42", maximum. The inner bracket, with appropriate "U" Bolts, will fit 4", 5", or 6" I. D. pipe.

Either One-way or Two-way Indication Light Assemblies may be mounted on the dowel masts, which can be turned in the socket to any desired angle.



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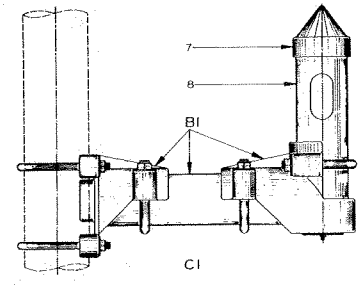
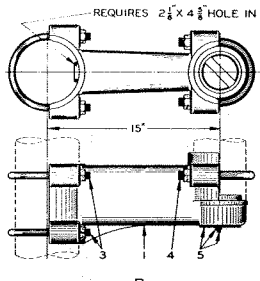
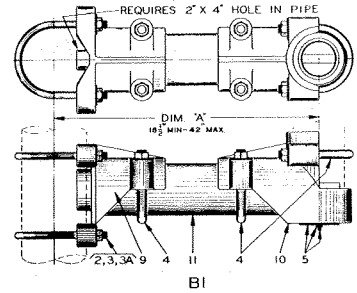


C1



B



B1

ORDERING REFERENCE

Specify Plate Number D290, Reference Number and Description

Ref. No.	Description	Piece No.
B	Supporting Bracket Assembly, Less Dowel Mast	3565-67
B1	Supporting Bracket Assembly, Less Dowel Mast, Specify Dimension "A" and diameter of signal mast	3565-167
C	Supporting Bracket and Dowel Mast Assembly	3575-367
C1	Supporting Bracket and Dowel Mast Assembly, Specify Dimension "A" and diameter of signal mast	3565-267
1	Bracket only	3565-69
2	"U" Bolt, for 4" I. D. Pipe Mast	1264-4
3	"U" Bolt, for 5", I. D. Pipe Mast	1264-5
3a	"U" Bolt, for 6" I. D. Pipe Mast	1264-6
4	"U" Bolt, for 4" I. D. Pipe Extension or Dowel Mast	3565-163
5	Cover and Clamp, for wire opening	3565-162A
7	Pinnacle, for 4" I. D. Pipe	110-6
8	Dowel Mast, 4" I. D. x 14" long, or as specified	714-8
9	Inner Support, Casting only	3565-168
10	Outer Support, Casting only	3565-166
11	Extension Pipe, 4" x length as required	

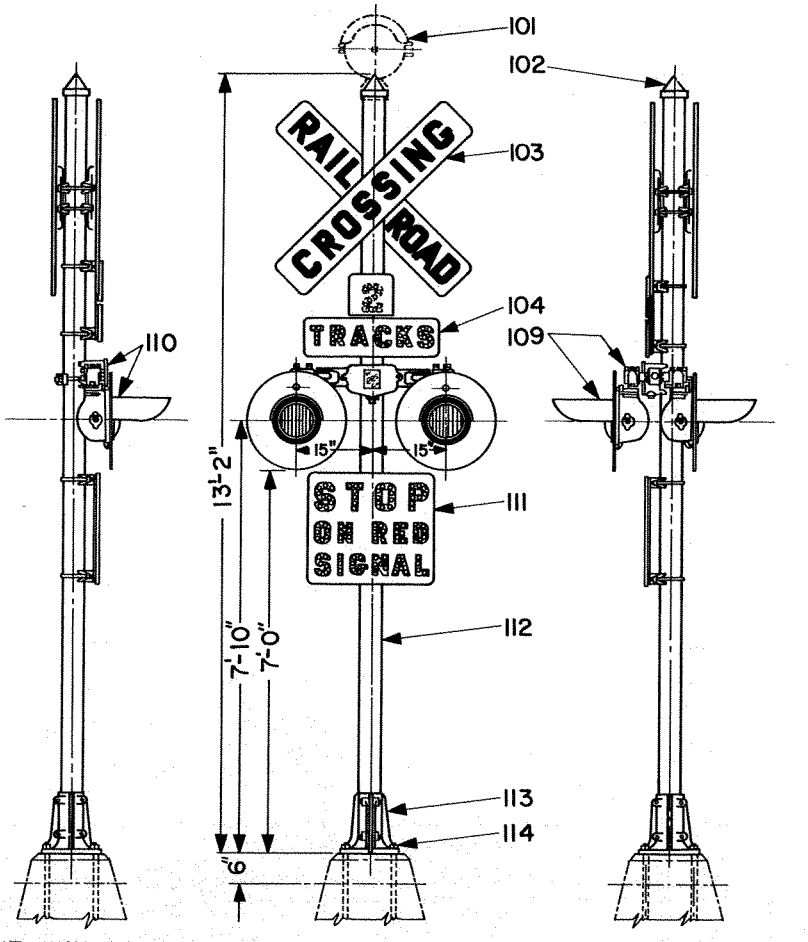
WESTERN RAILROAD SUPPLY COMPANY

Flashing Light Highway Crossing Signals with Type 950A-201 Light Units

(Single Contact, Bayonet Base, Receptacle)

ONE-WAY OR TWO-WAY INDICATIONS

Signal A-479



ONE WAY INDICATION

TWO WAY INDICATION

Signals will be furnished with 4" I. D. Pipe Mast unless 5" I. D. Pipe is specified on order.

NOTE:

1 - For ordering references for this signal complete see following page.
2 - For ordering references for Type 950A Crossing Signal Lights see Plate D370A.
3 - For ordering references for detail parts of this assembly see Plate D420A.
4 - Dimensions shown can be varied to meet particular requirements.

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WESTERN RAILROAD SUPPLY COMPANY

Flashing Light Highway Crossing Signals with Type 950A-201 Light Units

(Single Contact, Bayonet Base, Receptacle)

ONE-WAY OR TWO-WAY INDICATIONS

Signal A-479

THE FOLLOWING INFORMATION MUST BE SPECIFIED:

1 - The Numeral required on Number of Tracks Sign.

2 - Voltage and wattage of Electric Lamps, if required.

3 - Type of Bell, if required.

NOTE:
No. 5323 Red Roundel will be furnished unless other roundel is specified. (See listing below).

Signals will be furnished with 4" I. D. Pipe Mast unless 5" I. D. Pipe is specified on order.

ORDERING REFERENCE

Specify Plate Number D300, Reference Number and Description

Description: Type No. A-479 Flashing Light Highway Crossing Signal

Ref. No.	Indication	Type of Crossing Sign	Type of Track Sign	With or Without Bell
1	Two Way	Cast Iron	Cast Iron	With
3	Two Way	Cast Iron	Cast Iron	Without
5	Two Way	Cast Iron	Reflector	With
7	Two Way	Cast Iron	Reflector	Without
9	Two Way	Reflector	Reflector	With
11	Two Way	Reflector	Reflector	Without
13	One Way	Cast Iron	Cast Iron	With
15	One Way	Cast Iron	Cast Iron	Without
17	One Way	Cast Iron	Reflector	With
19	One Way	Cast Iron	Reflector	Without
21	One Way	Reflector	Reflector	With
23	One Way	Reflector	Reflector	Without
25	Two Way	Reflex-Reflective	Reflex-Reflective	With
27	Two Way	Reflex-Reflective	Reflex-Reflective	Without
29	One Way	Reflex-Reflective	Reflex-Reflective	With
31	One Way	Reflex-Reflective	Reflex-Reflective	Without

Note: Roundels Available for Flashing Light Units are:
CL-17, 30° Horizontal Spread.
5319, 160° Horizontal Spread, 12° Down Deflection.
5321, 20° Deflecting.
5323, 30° Horizontal Spread, 15° Down Deflection.
5327, 20° Horizontal Spread, 32° Down Deflection.
5332, 70° Horizontal Spread.
5333, Diffusion-deflection Type, With Horizontal and Downward Spread.

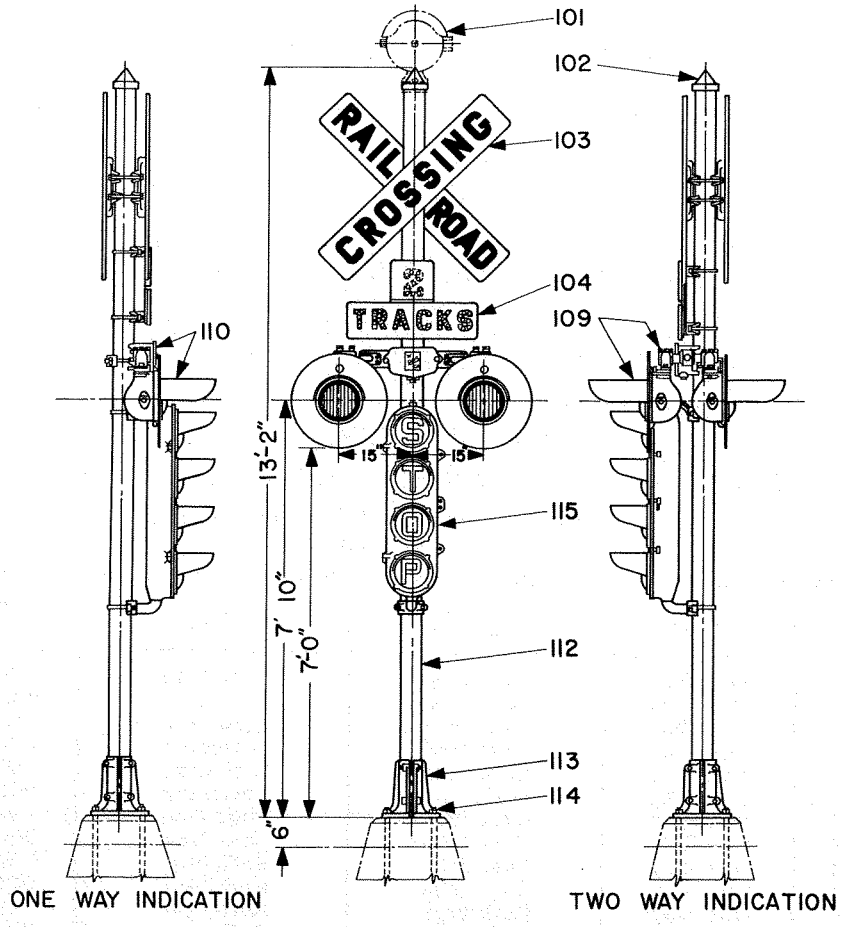
WESTERN RAILROAD SUPPLY COMPANY

Flashing Light Highway Crossing Signals with Type 950A-201 Light Units

(Single Contact, Bayonet Base, Receptacle)

ONE-WAY OR TWO-WAY INDICATIONS

Signal A-480



Signals will be furnished with 4" I. D. Pipe Mast unless 5" I. D. Pipe is specified on order.

NOTE:

1 - For ordering references for this signal complete see following page.
2 - For ordering references for Type 950A Flashing Light Signal Units see Plate D370A.
3 - For ordering references for detail parts of this assembly see Plate D420A.
4 - Dimensions shown can be varied to meet particular requirements.

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WESTERN RAILROAD SUPPLY COMPANY

Flashing Light Highway Crossing Signals with Type 950A-201 Light Units

(Single Contact, Bayonet Base, Receptacle)

ONE-WAY OR TWO-WAY INDICATIONS

Signal A-480

THE FOLLOWING INFORMATION MUST BE SPECIFIED:

1 - The Numeral required on Number of Tracks Sign.

2 - Voltage and wattage of Electric Lamps, if required.

3 - Type of Bell, if required.

NOTE:

No. 5323 Red Roundel will be furnished in Flashing Light units unless other roundel is specified (See listing on Plate D300).

Verticle Illuminated STOP Sign will be furnished with sand-blasted glass letters and convex roundels unless metal cut-out letters and diffusing roundels are specified. Signals will be furnished with 4" I. D. Pipe Mast unless 5" Pipe is specified on order.

ORDERING REFERENCE

Specify Plate Number D320, Reference Number and Description

Description: Type No. A-480 Flashing Light Highway Crossing Signal

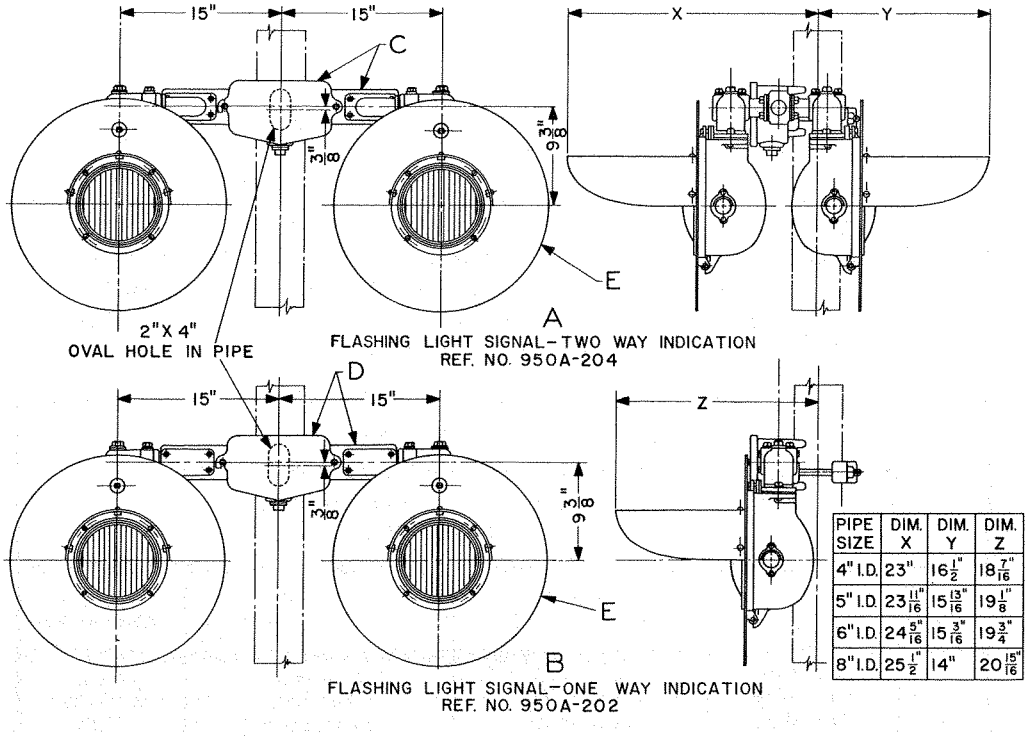
Ref. No.	Indication	Type of Crossing Sign	Type of Track Sign	With or Without Bell
1	Two Way	Cast Iron	Cast Iron	With
3	Two Way	Cast Iron	Cast Iron	Without
5	Two Way	Cast Iron	Reflector	With
7	Two Way	Cast Iron	Reflector	Without
9	Two Way	Reflector	Reflector	With
11	Two Way	Reflector	Reflector	Without
13	One Way	Cast Iron	Cast Iron	With
15	One Way	Cast Iron	Cast Iron	Without
17	One Way	Cast Iron	Reflector	With
19	One Way	Cast Iron	Reflector	Without
21	One Way	Reflector	Reflector	With
23	One Way	Reflector	Reflector	Without
25	Two Way	Reflex-Reflective	Reflex-Reflective	With
27	Two Way	Reflex-Reflective	Reflex-Reflective	Without
29	One Way	Reflex-Reflective	Reflex-Reflective	With
31	One Way	Reflex-Reflective	Reflex-Reflective	Without

WESTERN RAILROAD SUPPLY COMPANY

Type 950A-201 Flashing Light Unit Assembly for both One-Way and Two-Way Indications

(Single Contact, Bayonet Base, Receptacle)

Type 950A-201 Light Units are equipped with Mangin mirror type glass reflectors, 8-3/8" diameter Roundels and Single Contact, Bayonet Base, Receptacles positioned to accomodate S-8 or S-11 bulb electric lamps, having 2 1/4" light center length.



PIPE SIZE	DIM. X	DIM. Y	DIM. Z
4" I.D.	23"	16 1/2"	18 7/16"
5" I.D.	23 11/16"	15 13/16"	19 1/8"
6" I.D.	24 5/16"	15 3/16"	19 3/4"
8" I.D.	25 1/2"	14"	20 15/16"

For mounting on 3 1/2", 4", 5", 6", or 8" I. D. Pipe Mast, as specified

NOTE:

1 - For ordering references for these assemblies see following page.
2 - For replacement parts for the Light Unit see Plate D380A.
3 - For replacement parts for Juntionbox Crossarm see Plate D390A.
4 - For replacement parts for Older Style Type 950-1 Light Unit,see Plate D370 in Catalog Section D, Part No. 2.

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WESTERN RAILROAD SUPPLY COMPANY

Type 950A-201 Flashing Light Unit Assembly for both One-Way and Two-Way Indications

(Single Contact, Bayonet Base, Receptacle)

THE FOLLOWING INFORMATION MUST BE SPECIFIED:

1 - Voltage and wattage of electric lamps, if required.

2 - Inside Diameter of Pipe Mast on which Assembly is to be mounted.

NOTE:
No. 5323 Red Roundels will be furnished unless other roundel is specified. (See listing below)

ORDERING REFERENCE
Specify Plate Number D370A, Reference Number and Description

Ref. No.	Description	Piece No.
A	Type 950 Flashing Light Unit Assembly, two-way indication, 4 light units, with 5323 Red Roundels and bolts for 4" I. D. Pipe Mast, unless otherwise specified	950A-204
B	Type 950 Flashing Light Unit Assembly, one-way indication, 2 light units, with 5323 Red Roundels and bolts for 4" I. D. Pipe Mast, unless otherwise specified	950A-202
C	Junctionbox Crossarm, for two-way indication with bolts for 4" I. D. Pipe Mast, unless otherwise specified	950A-5
D	Junctionbox Crossarm, for one-way indication, with bolts for 4" I. D. Pipe Mast, unless otherwise specified	950A-3
E	Type 950A-201 Flashing Light Unit only (Specify voltage and wattage of electric lamp and roundel desired. (See listing below)	950A-201

Note: Roundels Available for Flashing Lights Units are:
CL-17, 30° Horizontal Spread.
5319, 160° Horizontal Spread, 12° Down Deflection.
5321, 20° Deflecting.
5323, 30° Horizontal Spread, 15° Down Deflection.
5327, 20° Horizontal Spread, 32° Down Deflection.
5332, 70° Horizontal Spread.
5333, Diffusion-deflection Type, With Horizontal and Downward Spread.

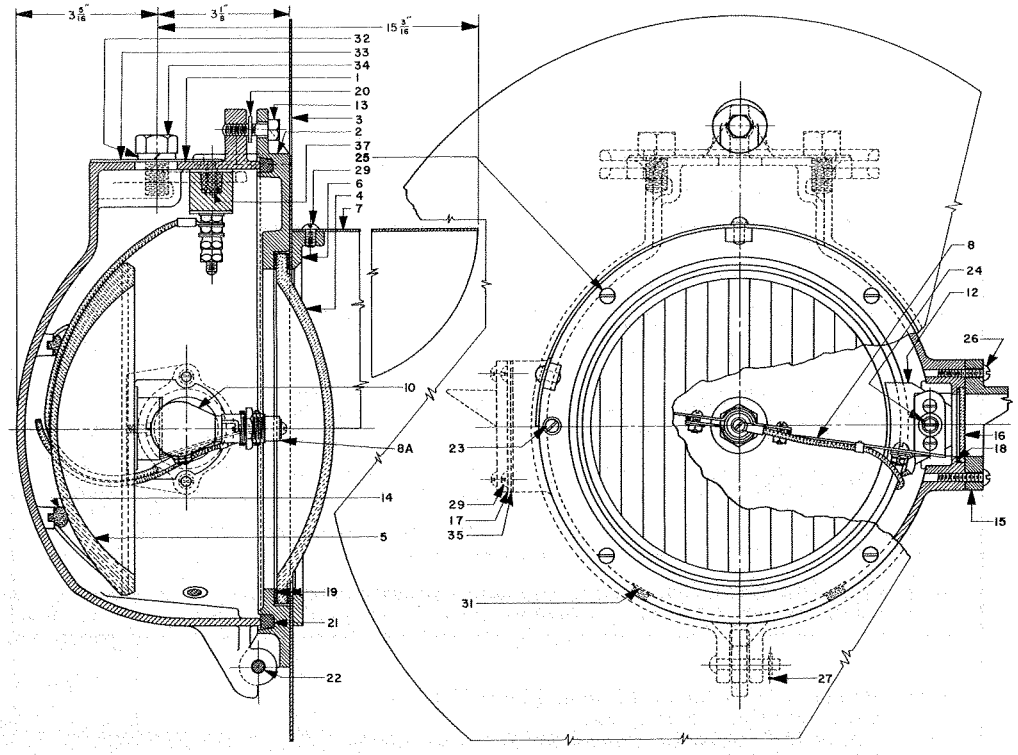
Type 950A-201 Crossing Signal Light Unit

(Single Contact, Bayonet Base, Receptacle)

Replacement Parts

All Castings in the Type 950A-201 Light Unit are Aluminum. Replacement parts of cast aluminum will be furnished unless cast iron is specified. Aluminum and cast iron parts are physically interchangeable.

Sheet Aluminum Hoods and Backgrounds will be furnished on all orders.



NOTE:

1 - For ordering references for replacement parts for this Light Unit see following page.

2 - For ordering references for replacement parts for the Older Style, Type 950-1, Light Unit see Plate D370 in Catalog Section D, Part No. 2.

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WESTERN RAILROAD SUPPLY COMPANY

Type 950A-201 Crossing Signal Light Unit

(Single Contact, Bayonet Base, Receptacle)

Replacement Parts

ORDERING REFERENCE

Specify Plate Number D380A , Reference Number and Description

Ref. No.	Description	Piece No.
A	Type 950A-201 Crossing Signal Light Unit, complete, specify roundel desired, See listing Plate D370A	950A-201
1	Case	950A-11
2	Cover	950A-12
3	Background	950-13A
4	Roundel, (See listing Plate D370A)	
5	Mangin Mirror Reflector	822
6	Roundel Retaining Ring	802-1
7	Hood	823-1A
8	Lamp Bracket and Receptacle, sub-assembly	950-250A
8a	Lamp Receptacle and Adjusting Nut, only	950-255
10	Single Contact, Bayonet Base Lamp, (Specify Voltage and Wattage	
12	Reflector Retaining Plate	880-211
13	Cap Screw, 5/16" x 7/8" long, Hexagon Head, Steel	
13a	Cap Screw and Retaining Washer Assembly	950-270R
14	Reflector Pad	880-15
15	Side Light Hood	880A-23
16	Side Light Glass Disc	811
17	Side Light Blank Cover	801-3
18	Side Light Gasket	818-48
19	Roundel Gasket	825
20	Retaining Washer	950-270
21	Packing, for cover	880-18
22	Hinge Pin and Cotter	950-259A
23	Machine Screw, #10-32 x 1/2" long, Fillister Head, Brass	
24	Machine Screw, #10-32 x 3/8" long, Fillister Head, Brass	
25	Machine Screw, #10-32 x 5/8" long, Round Head, Brass	
26	Machine Screw, 1/4"-20 x 3/4" long, Round Head, Brass	
27	Cotter Pin, 3/32" x 5/8" long, steel	
29	Machine Screw, 1/4"-20 x 3/8" long, Round Head, Brass	
31	Ventilator	818-49
32	Lock Washer, 1/2", steel	
33	Gasket	950-17
34	Cap Screw, 1/2"-13 x 1 1/4", Hexagon Head, Steel	
35	Gasket	801-2
37	Cover sub-assembly, includes references 2, 13, 20 and 21	950A-231

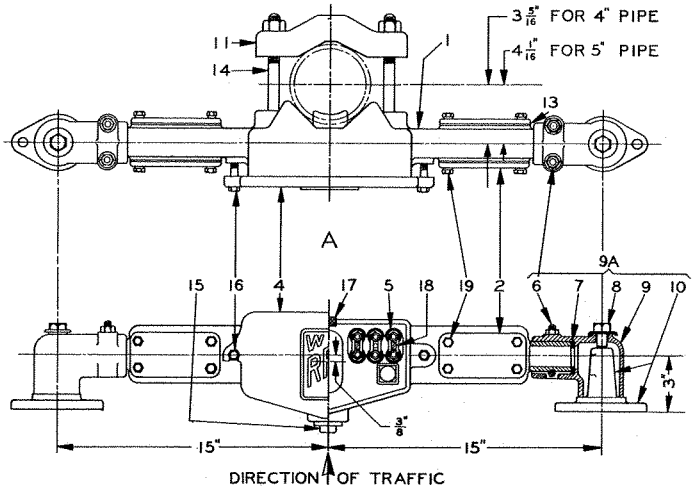
NOTE:

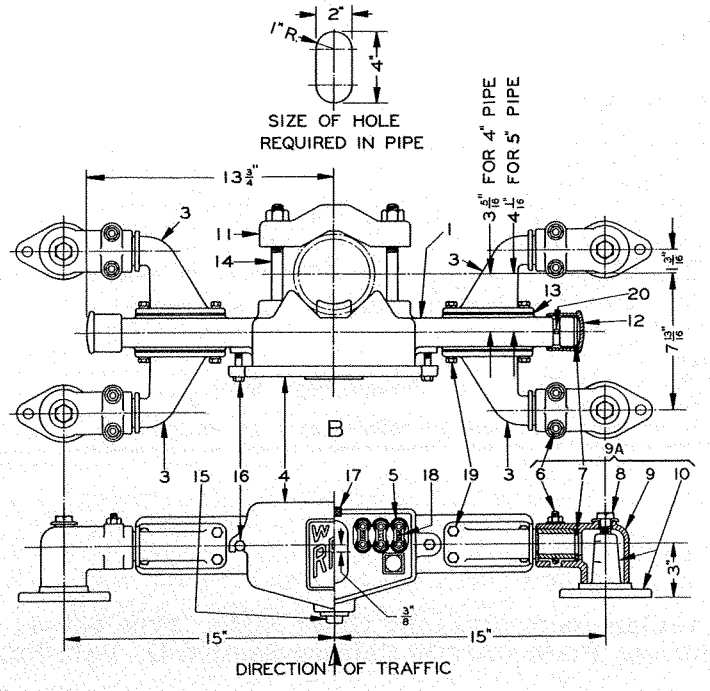
For replacement parts for Older Style, Type 950-1, Light Unit see Plate D370 in Catalog Section D, Part No. 2.

WESTERN RAILROAD SUPPLY COMPANY

Junction Cross Arm for Mounting Type 950A-201 Crossing Signal Light Units Replacement Parts

All castings in the Type 950A Junctionbox Crossarms are Aluminum. Replacement parts of cast aluminum will be furnished unless cast iron is specified. Aluminum and cast iron parts are physically interchangeable.





NOTE:

1 - For ordering references for replacement parts for these Junctionbox Crossarms see following page.

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WESTERN RAILROAD SUPPLY COMPANY

Junction Cross Arm for Mounting Type 950A-201 Crossing Signal Light Units

Replacement Parts

ORDERING REFERENCE

Specify Plate Number D390A, Reference Number and Description

Ref. No.	Description	Piece No.
A	Junctionbox Crossarm Assembly complete, for one-way indication (Specify I. D. of Pipe Mast)	950A-3
B	Junctionbox Crossarm Assembly complete, for two-way indication (Specify I. D. of Pipe Mast)	950A-5
1	Junctionbox, casting only	950A-22
1a	Junctionbox, sub-assembly of references 1, 4, 5, 15, 16, 17, and 18	950A-62
2	Cover Plate	950A-39
3	Bracket, 3 1/2" extension	950A-57
4	Cover, with packing	950A-21
5	Terminal Block, complete, 6 binding posts	2506-13E
6	"U" Bolt, complete with nuts	950-31
7	Gasket, sponge rubber	950-28
8	Bolt, complete with cupped washer	950-33
9	Supporting Bracket, casting only	950A-30
9a	Supporting Bracket, sub-assembly of references 6 to 10 inc.	950A-63
10	Light Unit Support	950A-32
11	Adaptor Clamp	950A-34
12	End Cap, with set screw and gasket	950A-29A
13	Gasket, cork	950-27
14	Machine Bolt, with hexagon nut, 5/8"-11 x 6" long, for mounting junctionbox crossarm on 4" I. D. Pipe	
14a	Machine Bolt, with hexagon nut, 5/8"-11 x 7 1/2" long, for mounting junctionbox crossarm on 5" I. D. Pipe	
14b	Machine Bolt, with hexagon nut, 5/8"-11, curved, for mounting junctionbox crossarm on 6" I. D. Pipe	3364-37
14c	Machine Bolt, with hexagon nut, 5/8"-11, curved, for mounting junctionbox crossarm on 8" I. D. Pipe	3364-35
15	Pipe Plug, 1 1/4"	
16	Cap Screw, 3/8"-16 x 2" long, Hexagon Head, Steel	
17	Torchwick Packing, 3/8" diameter, 27" long	
18	Machine Screw #10-32 x 5/8" long, Fillister Head, Brass	
19	Cap Screw, 3/8"-16 x 7/8" long, Hexagon Head, steel, with plain washer	
20	Set Screw, 1/4"-20 x 1/2" long, Square Head, Cup Point	

NOTE:

For ordering reference for Adaptor for attaching Type 818-103 Light Unit to these Junctionbox Crossarms, See Plate D170A.

WESTERN RAILROAD SUPPLY COMPANY

Detail Parts for Flashing Light Highway Crossing Signals

Reference Numbers listed below correspond to numbers shown on detail parts on Flashing Light Highway Crossing Signal Assemblies illustrated on the preceding pages of this catalog section.

ORDERING REFERENCE

Specify Plate Number D420 A , Reference Number and Description

Ref. No.	Description	Piece No.
	Bells and Pinnacles	
101	Type 222 D. C. Crossing Bell, 12" Gong, for mounting on 4" I. D. Pipe Mast, (See Pl. B5 for details)	222-CR
101b	Type 222 D. C. Crossing Bell, 12" Gong, for mounting on 5" I. D. Pipe Mast, (See Pl. B5 for details)	222-FR
101c	Pedestrian Type Crossing Bell, 8" Gong, for mounting on 4" I. D. Pipe Mast, (See Pl. B15 for details)	1275-CR
101d	Pedestrian Type Crossing Bell, 8" Gong, for mounting on 5" I. D. Pipe Mast, (See Pl. B15 for details)	1275-FR
101e	Type 1203 A. C. Crossing Bell, 12" Gong, for mounting on 4" I. D. Pipe Mast, (See Pl. B10 for details)	1203-CR
101f	Type 1203 A. C. Crossing Bell, 12" Gong, for mounting on 5" I. D. Pipe Mast, (See Pl. B10 for details)	1203-FR
102	Pinnacle, for 4" I. D. Pipe Mast	110-6
102a	Pinnacle, for 5" I. D. Pipe Mast	110-8
	Railroad Crossing Signs (See Catalog Section H for Details)	
103	Railroad Crossing Sign, Cast Iron, for mounting on 4" I. D. Pipe Mast	3320-14
103a	Railroad Crossing Sign, Cast Iron, for mounting on 5" I. D. Pipe Mast	3320-15
103b	Railroad Crossing Sign, Reflector Unit Type, Vitreous Enamel Finish, for mounting on 4" I. D. Pipe Mast	3380-3
103c	Railroad Crossing Sign, Reflector Unit Type, Vitreous Enamel Finish, for mounting on 5" I. D. Pipe Mast	3380-3A
103d	Railroad Crossing Sign, Reflector Unit Type, Synthetic Enamel Finish, for mounting on 4" I. D. Pipe Mast	3380-4
103e	Railroad Crossing Sign, Reflector Unit Type, Synthetic Enamel Finish, for mounting on 5" I. D. Pipe Mast	3380-4A
103f	Railroad Crossing Sign, Reflex-Reflecting Type, sheet steel, for mounting on 4" I. D. Pipe Mast	3380-604
103g	Railroad Crossing Sign, Reflex-Reflecting Type, sheet steel, for mounting on 5" I. D. Pipe Mast	3380-605
103h	Railroad Crossing Sign, Reflex-Reflecting Type, extruded aluminum, for mounting on 4" I. D. Pipe Mast	3380-704
103i	Railroad Crossing Sign, Reflex-Reflecting Type, extruded aluminum, for mounting on 5" I. D. Pipe Mast	3380-705

Continued on next page

Detail Parts for Flashing Light Highway Crossing Signals

(Continued)

ORDERING REFERENCE

Specify Plate Number D420 A. Reference Number and Description

Ref. No.	Description	Piece No.
	Number of Tracks Signs	
	(See Catalog Section H for Details)	
	(Specify Numeral required)	
104	Number of Tracks Sign, Cast Iron, for mounting on 4" I. D. Pipe Mast	16444-14
104a	Number of Tracks Sign, Cast Iron, for mounting on 5" I. D. Pipe Post	16444-15
104b	Number of Tracks Sign, Reflector Unit Type, Vitreous Enamel finish, for mounting on 4" I. D. Pipe Mast	3368-3
104c	Number of Tracks Sign, Reflector Unit Type, Vitreous Enamel finish, for mounting on 5" I. D. Pipe Mast	3368-3A
104d	Number of Tracks Sign, Reflector Unit Type, Synthetic Enamel finish, for mounting on 4" I. D. Pipe Mast	3368-4
104e	Number of Tracks Sign, Reflector Unit Type, Synthetic Enamel finish, for mounting on 5" I. D. Pipe Mast	3368-4A
104f	Number of Tracks Sign, Reflex-Reflecting Type, sheet steel, for mounting on 4" I. D. Pipe Mast	3368-604
104g	Number of Tracks Sign, Reflex-Reflecting Type, sheet steel, for mounting on 5" I. D. Pipe Mast	3368-605
104h	Number of Tracks Sign, Reflex-Reflecting Type, extruded aluminum, for mounting on 4" I. D. Pipe Mast	3368-704
104i	Number of Tracks Sign, Reflex-Reflecting Type, extruded aluminum, for mounting on 5" I. D. Pipe Mast	3368-705
	Flashing Light Units	
	(Specify Roundel required)	
105	Flashing Light Unit Assembly, Type 818, two-way indication, for mounting on 4" I. D. Pipe Mast	818-204M
105a	Flashing Light Unit Assembly, Type 818, two-way indication, for mounting on 5" I. D. Pipe Mast	818-204M
106	Flashing Light Unit Assembly, Type 818, one-way indication, for mounting on 4" I. D. Pipe Mast	818-202M
106a	Flashing Light Unit Assembly, Type 818, one-way indication, for mounting on 5" I. D. Pipe Mast	818-202M
109	Flashing Light Unit Assembly, Type 950, two-way indication, for mounting on 4" I. D. Pipe Mast	950A-204
109a	Flashing Light Unit Assembly, Type 950, two-way indication, for mounting on 5" I. D. Pipe Mast	950A-204
110	Flashing Light Unit Assembly, Type 950, one-way indication, for mounting on 4" I. D. Pipe Mast	950A-202
110a	Flashing Light Unit Assembly, Type 950, one-way indication, for mounting on 5" I. D. Pipe Mast	950A-202

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WESTERN RAILROAD SUPPLY COMPANY

Detail Parts for Flashing Light Highway Crossing Signals

(Continued)

ORDERING REFERENCE Specify Plate Number D420A, Reference Number and Description		
Ref. No.	Description	Piece No.
	"STOP ON RED SIGNAL" Signs **(See Catalog Section H for Details)**	
111	Stop on Red Signal sign, Reflector Unit Type, Vitreous Enamel finish, for mounting on 4" I. D. Pipe Mast	3366-3
111a	Stop on Red Signal sign, Reflector Unit Type, Vitreous Enamel finish, for mounting on 5" I. D. Pipe Mast	3366-3A
111b	Stop on Red Signal sign, Reflector Unit Type, Synthetic Enamel finish, for mounting on 4' I. D. Pipe Mast	3366-4
111c	Stop on Red Signal sign, Reflector Unit Type, Synthetic Enamel finish, for mounting on 5" I. D. Pipe Mast	3366-4A
111d	Stop on Red Signal sign, Reflex-Reflecting Type, sheet steel, for mounting on 4" I. D. Pipe Mast	3366-604
111e	Stop on Red Signal sign, Reflex-Reflecting Type, sheet steel, for mounting on 5" I. D. Pipe Mast	3366-605
111f	Stop on Red Signal sign, Reflex-Reflecting Type, sheet Aluminum, for mounting on 4" I. D. Pipe Mast	3366-704
111g	Stop on Red Signal sign, Reflex-Reflecting Type, sheet Aluminum, for mounting on 5" I. D. Pipe Mast	3366-705
	Masts and Bases	
112	Pipe Mast, 4" I. D., 12' 10" long, drilled as required	
112a	Pipe Mast, 5" I. D., 12' 10" long, drilled as required	
	(See Catalog Section E for Details of Bases)	
113	Clamp Type Base, 9 1/2" x 9 1/2" anchor bolt spacing, for 4" I. D. Pipe Mast	14492
113a	Clamp Type Base, 11-11/16" x 11-11/16" anchor bolt spacing, for 4" I. D. Pipe Mast	2143
113b	Clamp Type Base, 11-11/16" x 11-11/16" anchor bolt spacing, for 5" I. D. Pipe Mast	2145
113c	Junctionbox Clamp Type Base, 9 1/2" x 9 1/2" anchor bolt spacing, for 4" I. D. Pipe Mast	2146-11
113d	Junctionbox Clamp Type Base, 11-11/16" x 11-11/16" anchor bolt spacing, for 4" I. D. Pipe Mast	2147-11
113e	Junctionbox Clamp Type Base, 11-11/16" x 11-11/16" anchor bolt spacing, for 5" I. D. Pipe Mast	2148-11
114	Anchor Bolt, 1" x 36", with hexagon nut and plain washer	11079

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WESTERN RAILROAD SUPPLY COMPANY

Detail Parts for Flashing Light Highway Crossing Signals

(Continued)

ORDERING REFERENCE Specify Plate Number D420 A, Reference Number and Description		
Ref. No.	Description	Piece No.
	Vertical Illuminated STOP Signs	
	(See Plate D430A for Details)	
115	Type 2800 Vertical Illuminated STOP Sign, with sandblasted glass letters and Single Contact, Bayonet Base, lamp receptacles, for mounting on 4" I. D. Pipe Mast	2800-12
115a	Type 2800 Vertical Illuminated STOP Sign, with sandblasted glass letters and Single Contact, Bayonet Base, lamp receptacles, for mounting on 5" I. D. Pipe Mast	2800-13
115b	Type 2800 Vertical Illuminated STOP Sign, with metal cut-out letters and Single Contact, Bayonet Base, lamp receptacles, for mounting on 4" I. D. Pipe Mast	2800-15
115c	Type 2800 Vertical Illuminated STOP Sign, with metal cut-out letters and Single Contact, Bayonet Base, lamp receptacles, for mounting on 5" I. D. Pipe Mast	2800-16
115d	Type 2801 Vertical Illuminated STOP Sign, with sandblasted glass letters and Medium Screw Base lamp receptacles, for mounting on 4" I. D. Pipe Mast	2801-12
115e	Type 2801 Vertical Illuminated STOP Sign, with sandblasted glass letters and Medium Screw Base Lamp receptacles, for mounting on 5" I. D. Pipe Mast	2801-13
115f	Type 2801 Vertical Illuminated STOP Sign, with metal cut-out letters and Medium Screw Base lamp receptacles, for mounting on 4" I. D. Pipe Mast	2801-15
115g	Type 2801 Vertical Illuminated STOP Sign, with metal cut-out letters and Medium Screw Base lamp receptacles, for mounting on 5" I. D. Pipe Mast	2801-16

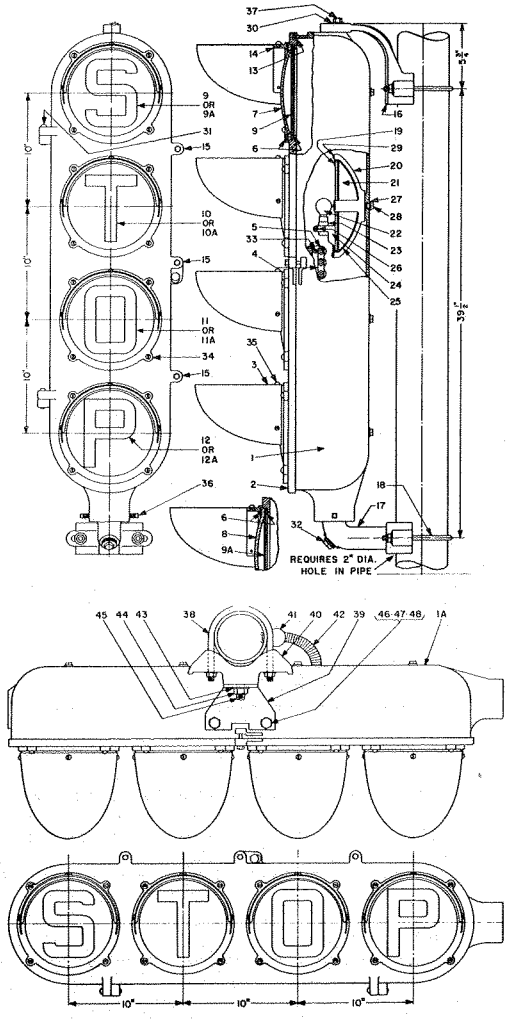
WESTERN RAILROAD SUPPLY COMPANY

Illuminated STOP Signs
With Mangin Mirror Reflectors

Type 2800 For Single Contact, Bayonet Base, Lamps.
Type 2801 For Medium Screw Base Lamps.

THE FOLLOWING INFORMATION MUST BE SPECIFIED:

1 - Inside Diameter of Pipe Mast on which Sign is to be mounted.
2 - Voltage and Wattage of electric lamps, if required.



For ordering references for these signs and the most frequently required replacement parts, see following page.

NOTE:

1 - Single Contact, Bayonet Base lamps having 1 1/4" light center length should be used.
2 - Medium Screw Base, Street Railway type, lamps of either 23 watt or 36 watt rating should be used.

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WESTERN RAILROAD SUPPLY COMPANY

Illuminated STOP Signs
With Mangin Mirror Reflectors

Type 2800 For Single Contact, Bayonet Base, Lamps.

Type 2801 For Medium Screw Base Lamps.

(Specify Diameter of Pipe Mast on which Sign is to be mounted)

ORDERING REFERENCE
Specify Plate Number D430A, Reference Number and Description

Ref. No.	Description	Piece No.
A	Vertical Illuminated STOP sign, with sandblasted glass letters and Single Contact, Bayonet Base, receptacles	2800-VG
B	Vertical Illuminated STOP sign, with sandblasted glass letters and Medium Screw Base receptacles	2801-VG
C	Vertical Illuminated STOP sign, with metal cut-out letters and Single Contact, Bayonet Base, receptacles	2800-VM
D	Vertical Illuminated STOP sign, with metal cut-out letters and Medium Screw Base receptacles	2801-VM
E	Horizontal Illuminated STOP sign, with sandblasted glass letters and Single Contact, Bayonet Base, receptacles	2800-HG
F	Horizontal Illuminated STOP sign, with sandblasted glass letters and Medium Screw Base receptacles	2801-HG
G	Horizontal Illuminated STOP sign, with metal cut-out letters and Single Contact, Bayonet Base, receptacles	2800-HM
H	Horizontal Illuminated STOP sign, with metal cut-out letters and Medium Screw Base receptacles	2801-HM
7	Red, Convex, Roundel, 8-3/8" diameter, diffusing	5328
8	Red, Convex, Roundel, 8-3/8" diameter, plain	5329
9	Sandblasted Glass Letter "S"	2856
9a	Metal Cut-out Letter "S"	1806-626
10	Sandblasted Glass Letter "T"	2857
10a	Metal Cut-out Letter "T"	1806-627
11	Sandblasted Glass Letter "O"	2858
11a	Metal Cut-out Letter "O"	1806-628
12	Sandblaster Glass Letter "P"	2859
12a	Metal Cut-out Letter "P"	1806-629
21	Mangin mirror reflector	822
22	Lamp, Single Contact, Bayonet Base, Specify voltage and wattage	
22a	Lamp, Medium Screw Base, Street Railway type, specify voltage and, either, 23 watt or 36 watt	

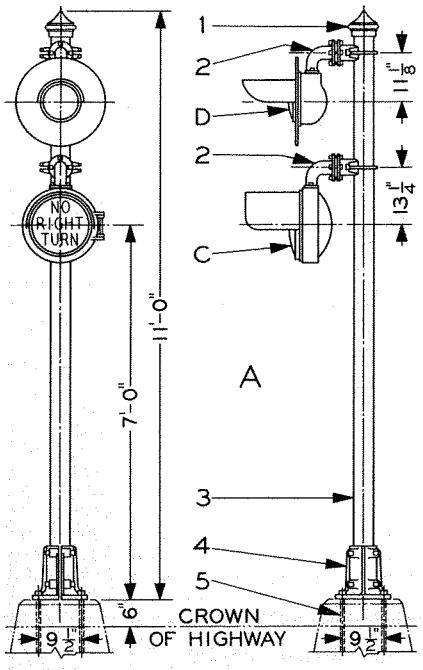
NOTE:

1 - For additional references for replacement parts for these STOP signs, request copy of "Replacement Parts Listing," corresponding to numerals shown in illustrations reproduced on opposite page.

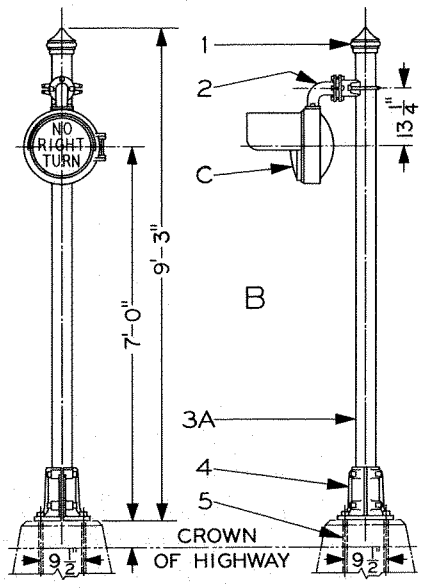
WESTERN RAILROAD SUPPLY COMPANY

No Turn Signals
Type A457 and Type A534

Signals of this type are often used in conjunction with Flashing Light Signals at locations where the use of additional Lights on the signal mast would not provide suitable added protection. Their use is the safest method of protecting street or highway traffic on roadways running parallel to the railroad without interfering with traffic not crossing the tracks.



TYPE A457



TYPE A534

NOTE:

1 - For ordering references for these signals and components see following page.
2 - For ordering references for replacement parts for Yellow Light Unit see Plate D380A in this Catalog Section.
3 - Replacement Parts List for NO TURN Sign will be furnished on request.
4 - The No Turn Light Unit will be furnished with other legend, as may be required, stenciled on inner glass.

WESTERN RAILROAD SUPPLY COMPANY

No Turn Signals
Type A457 and Type A534

ORDERING REFERENCE Specify Plate Number D495 A , Reference Number and Description		
Ref. No.	Description	Piece No.
A1	"NO LEFT TURN" Signal with Yellow Flashing Light Unit, Pole, Base, Pinnacle and Anchor Bolts	A457L
A2	"NO RIGHT TURN" Signal with Yellow Flashing Light Unit, Pole, Base, Pinnacle and Anchor Bolts	A457R
A3	"NO TURN" Signal with Yellow Flashing Light Unit, Pole, Base, Pinnacle and Anchor Bolts	A457N
B1	"NO LEFT TURN" Sign with Pole, Base, Pinnacle and Anchor Bolts	A534L
B2	"NO RIGHT TURN" Sign with Pole, Base, Pinnacle and Anchor Bolts	A534R
B3	"NO TURN" Sign with Pole, Base, Pinnacle and Anchor Bolts	A534N
C1	"NO LEFT TURN" Sign with Adaptor Bracket and "U" Bolt	939-1L
C2	"NO RIGHT TURN" Sign with Adaptor Bracket and "U" Bolt	939-1R
C3	"NO TURN" Sign with Adaptor Bracket and "U" Bolt	939-1N
C4	"NO LEFT TURN" Sign, only, without Bracket and "U" Bolt	939-1LX
C5	"NO RIGHT TURN" Sign, only, without Bracket and "U" Bolt	939-1RX
C6	"NO TURN" Sign, only, without Bracket and "U" Bolt	939-1NX
D	Yellow Flashing Light Unit, with Adaptor Bracket and "U" Bolt	950A-501
D1	Yellow Flashing Light Unit, only, without Bracket and "U" Bolt	950A-201
1	Pinnacle, for 4" I. D. Pipe Mast	12452
2	Adaptor Bracket with "U" Bolt, nuts and washers	939-51
3	Pipe Mast, 4" I. D. x 10' 8" long, for A457 signal	714-21-3
3a	Pipe Mast, 4" I. D. x 9' 0" long, for A534 Sign	714-20-2
4	Split Base, for 4" I. D. Pipe Mast	14492
5	Anchor Bolt, 1" x 24" long, with Hexagon Nut and Washer	11079-1
6	Transparent Outer Cover, Glass	221718
6a	Transparent Outer Cover, Plastic	221718P

NOTE:

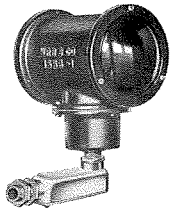
1 - The No Turn Signs will be furnished with Glass Outer cover unless Plastic outer cover is specified.

2 - 10 Volt, 25 Watt, Single Contact, Bayonet Base, Electric Lamps, S-11 Bulb, having light center length of 2 1/4", are recommended for the No Turn Signs, but are not furnished unless specified on order.

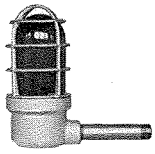
3 - No Turn Sign and Yellow Flashing Light Unit mounting Brackets are furnished with "U" Bolts for 4" Pipe Mast, unless otherwise specified.

WESTERN RAILROAD SUPPLY COMPANY

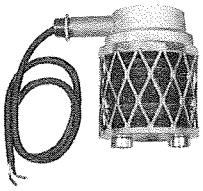
Accessories for Highway Crossing Signals



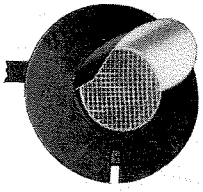
Type 1553-20
MARKER LIGHT



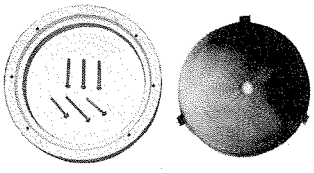
Type 675
MARKER LIGHT



Type 1585-80
MARKER LIGHT



Type 879
ROUNDEL PROTECTOR



Type 880-311
PHANTOM SUPPRESSOR KIT

The various Marker Lights are intended for use where Crossing Signals are, of necessity, mounted close to the curb-line or on center-of-street islands. Except Type 1585-80, they are supplied with Red or Yellow glassware, as specified.

The Lens Protector prevents Roundel breakage due to stones or other objects, yet does not obstruct the light beam.

The Phantom Suppressor and adaptor can be attached to either the Type 818-103 or the Type 950A-201 Flashing Light Units.

ORDERING REFERENCE

Specify Plate Number D435A, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1553 Marker Light, with Single Contact, Bayonet Base, lamp receptacle and 3 1/2" dia., 2 1/4" focus, Red, Lens	1553-20R
1a	Type 1553 Marker Light, with Single Contact, Bayonet Base, lamp receptacle and 3 1/2" dia., 2 1/4" focus, Yellow, Lens	1553-20Y
3	Type 675 Marker Light, with Medium Screw Base lamp receptacle and Red Globe	675-R
3a	Type 675 Marker Light, with Medium Screw Base lamp receptacle and Yellow Globe	675-Y
3b	Red Globe for Type 675 Marker Light	90801-1R
3c	Yellow Globe for Type 675 Marker Light	90801-1A
5	Roundel Protector, Specify Type and Manufacturer of Light Unit for which desired	Dwg. 879
6	Type 1585-80 Marker Light, with Single Contact, Bayonet Base, lamp receptacle and Red, Fresnel, Lens	1585-80R
6a	Type 1585-80 Marker Light, with Single Contact, Bayonet Base, lamp receptacle and Clear, Fresnel, Lens	1585-80C
7	Phantom Suppressor Kit, complete with Gaskets and Screws	880-311
8	Phantom Suppressor, only	949-1
9	Adaptor Ring, with screws, for applying Phantom Suppressor to Type 818-103 or Type 950A-201 Light Units	880-310

Flashing Light Highway Crossing Signals
Cantilever Type

GENERAL

The increased number of multiple-lane highways which cross railroad tracks at grade has lead to the more extensive use of Cantilever Type Highway Crossing Signals which permit the placing of Flashing Light Units out over the traveled roadway, for greater visibility.

To meet the varying requirements, four standard signals, shown on the following pages, have been designed. Each signal is usually equipped with two-way indication Flashing Light Signals on the dowel mast but, on some divided highways, where traffic moves in only one direction, one-way indication Flashing Lights may be sufficient and will be supplied when so ordered. Flashing Lights, mounted on the main mast, are often required for the protection of highway traffic in the right-hand lane. Ordering references for assemblies so equipped are included in the listings on the following Catalog Plates.

The length of the dowel mast can be increased so as to permit mounting a Railroad Crossing sign over the roadway, above the Flashing Lights, where necessary.

The Standard Cantilever Type Signals provide a vertical clearance of 14' - 0", as prescribed by current regulations and as shown on A.A.R., Signal Section, Drawings No. 1686F and No. 1688D, but extra long main masts will be furnished, on special order, to increase the vertical clearance to 17'- 0". Other variations, to meet special requirements, may also be incorporated.

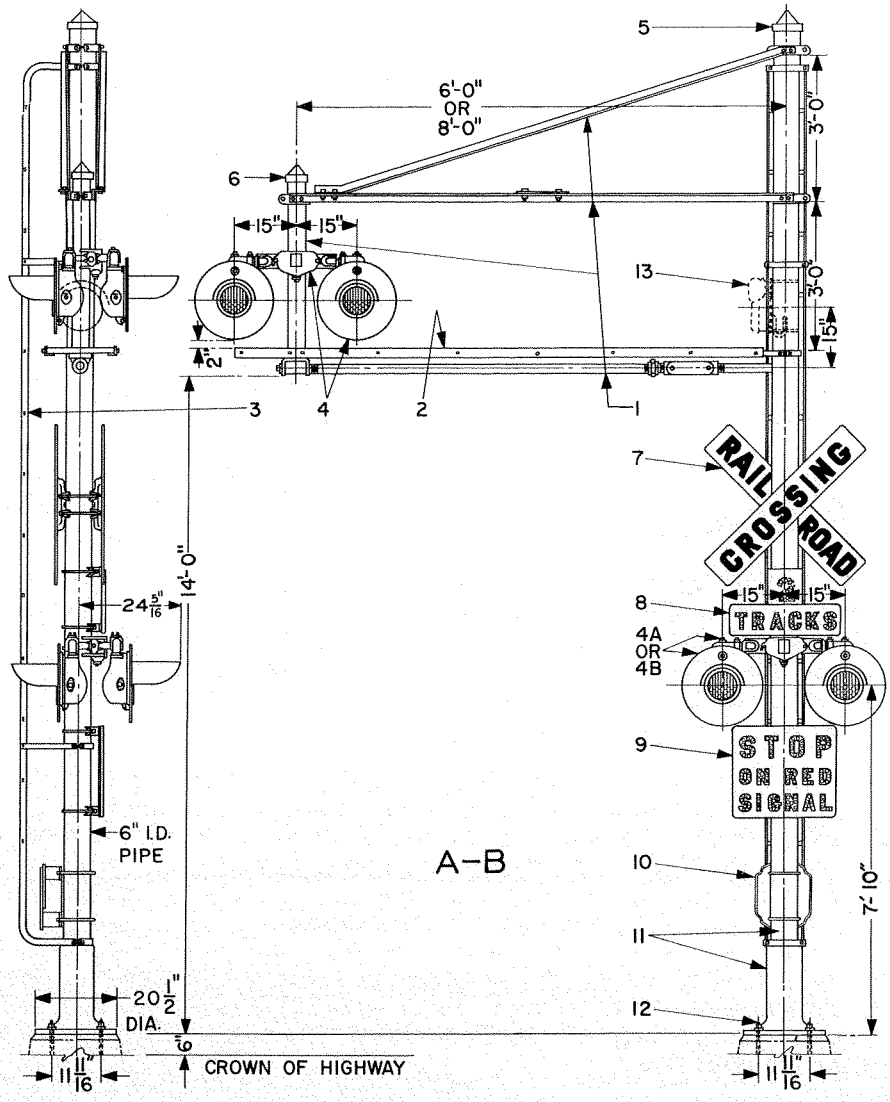
The main masts of Western Railroad Supply Company's Cantilever Type Signals, with 10 foot and 12 foot brackets, are fitted with CAST STEEL BASES, having 65,000 pounds per square inch tensile strength as compared with 35,000 pounds for the conventional Cast Iron Bases. This factor of 86% greater strength insures the safety of maintenance personnel and a longer service life of the signals.

If signals are to be operated directly from a commercial power source at the commercial voltage, Type 818-103 Flashing Light Units can be furnished in place of the Type 950A-201 Light Units listed for the standard assemblies.

WESTERN RAILROAD SUPPLY COMPANY

Highway Crossing Signals
Cantilever Type

A607 = 6' -0" Span A580 = 8' -0" Span



NOTE:

1 - Two-way Indication Flashing Lights will be furnished for Dowel Mast, unless otherwise specified.

2 - Type 222ARP Crossing Bell will be furnished, when required, unless other type is specified. See Catalog Section B.

3 - Anchor Bolts will not be furnished, unless specified.

4 - For Detail Parts for these Assemblies, see Plate D520.

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WESTERN RAILROAD SUPPLY COMPANY

Highway Crossing Signals
Cantilever Type

A607 = 6' -0" Span A580 = 8' -0" Span

THE FOLLOWING INFORMATION MUST BE SPECIFIED:

1 - The Numeral required on Number of Tracks Sign.
2 - Type of Signs required, See references 7, 8 and 9, Plate D520.
3 - Voltage and Wattage of Electric Lamps, if required.

NOTE:
No. 5327 Roundels will be furnished for Light Units on Dowel Mast and No. 5323 Roundels for Light Units on Main Mast, unless otherwise specified. (See Listing, Plate D520).

ORDERING REFERENCE

6'-0" Span
Specify Plate D510, Reference Number, Assembly Number and Description.
Description: Highway Crossing Signal, Cantilever Type, 6'-0" Span

Ref. No.	Assembly Number	Junction Box	Crossing Bell	Flashing Lights on Main Mast
A 1	A607-A-1	With	With	None
A 2	A607-A-2	With	Without	None
A 3	A607-A-3	Without	With	None
A 4	A607-A-4	Without	Without	None
A 5	A607-B-1	With	With	One-Way Indication
A 6	A607-B-2	With	Without	One-Way Indication
A 7	A607-B-3	Without	With	One-Way Indication
A 8	A607-B-4	Without	Without	One-Way Indication
A 9	A607-C-1	With	With	Two-Way Indication
A10	A607-C-2	With	Without	Two-Way Indication
A11	A607-C-3	Without	With	Two-Way Indication
A12	A607-C-4	Without	Without	Two-Way Indication

ORDERING REFERENCE

8'-0" Span
Specify Plate D510, Reference Number, Assembly Number and Description.
Description: Highway Crossing Signal, Cantilever Type, 8'-0" Span

Ref. No.	Assembly Number	Junction Box	Crossing Bell	Flashing Lights on Main Mast
B 1	A580-A-1	With	With	None
B 2	A580-A-2	With	Without	None
B 3	A580-A-3	Without	With	None
B 4	A580-A-4	Without	Without	None
B 5	A580-B-1	With	With	One-Way Indication
B 6	A580-B-2	With	Without	One-Way Indication
B 7	A580-B-3	Without	With	One-Way Indication
B 8	A580-B-4	Without	Without	One-Way Indication
B 9	A580-C-1	With	With	Two-Way Indication
B10	A580-C-2	With	Without	Two-Way Indication
B11	A580-C-3	Without	With	Two-Way Indication
B12	A580-C-4	Without	Without	Two-Way Indication

WESTERN RAILROAD SUPPLY COMPANY

Detail Parts for Cantilever Type Highway Crossing Signals

A607 = 6' - 0" Span A580 = 8' - 0" Span

ORDERING REFERENCE
Specify Plate Number D520, Reference Number and Description

Piece No.	Description	Piece No.
1	Cantilever Bracket and Dowel Mast, 6' -0" Span	6512X
1a	Cantilever Bracket and Dowel Mast, 8' -0" Span	6515
2	Inspection Platform for 6' -0" Span	6512-11X
2a	Inspection Platform for 8' -0" Span	6512-11C
3	Ladder complete with braces and clamps	6050-4
4	Type 950 Flashing Light Signal Unit, Two-way Indication, with No. 5327 Roundels, for 4" I. D. Dowel Mast mounting	950A-204
4a	Type 950 Flashing Light Signal Unit, Two-way Indication, with No. 5323 Roundels, for 6' I. D. Main Mast mounting	950A-204
4b	Type 950 Flashing Light Signal Unit, One-way Indication, with No. 5323 Roundels, for 6" I. D. Main Mast mounting	950A-202
5	Pinnacle, for 6" I. D. Main Mast	110-9
6	Pinnacle, for 4" I. D. Dowel Mast	110-6
	Railroad Crossing Signs (See Catalog Section H for Details)	
7	Railroad Crossing sign, Cast Iron	3320-16
7a	Railroad Crossing sign, Reflector Unit Type, Vitreous Enamel finish	3380-63
7b	Railroad Crossing sign, Reflector Unit Type, Synthetic Enamel finish	3380-64
7c	Railroad Crossing sign, Reflex-Reflecting Type, Sheet steel	3380-606
7d	Railroad Crossing sign, Reflex-Reflecting Type, Extruded Aluminum	3380-706
	Number of Tracks Signs (See Catalog Section H for Details) (Specify Numeral required)	
8	Number of Tracks sign, Cast Iron	16444-16
8a	Number of Tracks sign, Reflector Unit Type, Vitreous Enamel finish	3368-63
8b	Number of Tracks sign, Reflector Unit Type, Synthetic Enamel finish	3368-64
8c	Number of Tracks sign, Reflex-Reflecting Type, sheet Steel	3368-606
8d	Number of Tracks sign, Reflex-Reflecting Type, Extruded Aluminum	3368-706

Continued on next page.

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WESTERN RAILROAD SUPPLY COMPANY

Detail Parts for Cantilever Type Highway Crossing Signals

A607 = 6' - 0" Span A580 = 8' - 0" Span

ORDERING REFERENCE Specify Plate Number D520, Reference Number and Description		
Ref. No.	Description	Piece No.
	"STOP ON RED SIGNAL" Signs (See Catalog Section H for Details)	
9	Stop on Red Signal Sign, Reflector Unit Type, Vitreous Enamel finish	3366-63
9a	Stop on Red Signal sign, Reflector Unit Type, Synthetic Enamel finish	3366-64
9b	Stop on Red Signal sign, Reflex-Reflecting Type, sheet steel	3366-606
9c	Stop on Red Signal sign, Reflex-Reflecting Type, sheet Aluminum	3366-706
10	Junction Box, complete with terminals and "U" Bolts	1228-WB6
11	Mast and Base Assembly, for references A1 or B1	6512-50EP
11a	Mast and Base Assembly, for references A2 or B2	6512-50E
11b	Mast and Base Assembly, for references A3 or B3	6512-50BP
11c	Mast and Base Assembly, for references A4 or B4	6512-50B
11d	Mast and Base Assembly, for references A5, A9, B5 or B9	6512-50F
11e	Mast and Base Assembly, for references A6, A10, B6, or B10	6512-50EA
11f	Mast and Base Assembly, for references A7, A11, B7 or B11	6512-50CP
11g	Mast and Base Assembly, for references A8, A12, B8 or B12	6512-50C
12	Anchor Bolt, 1" x 36", with hexagon nut and plain washer	11079
13	Type 222 D. C. Crossing Bell, 12" Gong, with "U" bolts, for mounting on 6" I. D. Pipe Mast, and Flexible conduit	0222ARP

NOTE:

Drawings and Replacement Parts List will be furnished on request, for Cantilever Bracket, Inspection Platform, Conduit, Ladder, or other components not listed above.

Note: Roundels Available for Flashing Lights Units are:
CL-17, 30° Horizontal Spread.
5319, 160° Horizontal Spread, 12° Down Deflection.
5321, 20° Deflecting.
5323, 30° Horizontal Spread, 15° Down Deflection.
5327, 20° Horizontal Spread, 32° Down Deflection.
5332, 70° Horizontal Spread.
5333, Diffusion-deflection Type, With Horizontal and Downward Spread.

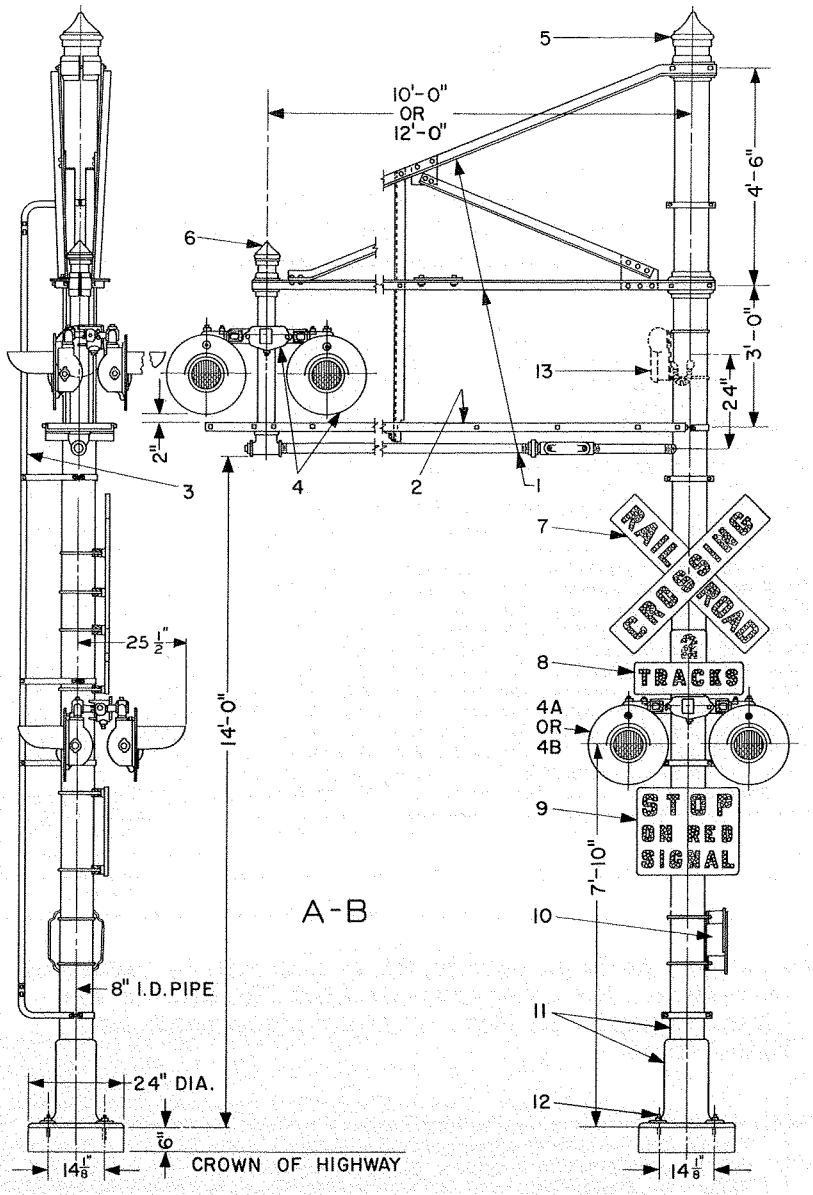
WESTERN RAILROAD SUPPLY COMPANY

Highway Crossing Signals
Cantilever Type

A624

10' -0" Span

12' -0" Span



NOTE:

1 - Two-way Indication Flashing Lights will be furnished for Dowel Mast, unless otherwise specified.

2 - Type 222ARP Crossing Bell will be furnished, when required, unless other type is specified. See Catalog Section B.

3 - Anchor Bolts will not be furnished, unless specified.

4 - For Detail Parts for these assemblies, see Plate D540.

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WESTERN RAILROAD SUPPLY COMPANY

Highway Crossing Signals
Cantilever Type

A624

10' -0" Span 12' -0" Span

THE FOLLOWING INFORMATION MUST BE SPECIFIED:

1 - **The Numeral required on Number of Tracks Sign.**
2 - Type of Signs required, See references 7, 8 and 9, Plate D540.
3 - Voltage and Wattage of Electric Lamps, if required.

NOTE:
No. 5327 Roundels will be furnished for Light Units on Dowel Mast and No. 5323 Roundels for Light Units on Main Mast, unless otherwise specified. (See Listing, Plate D540).

ORDERING REFERENCE

10'-0" Span
Specify Plate D530, Reference Number, Assembly Number and Description.
Description: Highway Crossing Signal, Cantilever Type, 10'-0" Span

Ref. No.	Assembly Number	Junction Box	Crossing Bell	Flashing Lights on Main Mast
A 1	A624-1A-1	With	With	None
A 2	A624-1A-2	With	Without	None
A 3	A624-1A-3	Without	With	None
A 4	A624-1A-4	Without	Without	None
A 5	A624-1B-1	With	With	One-Way Indication
A 6	A624-1B-2	With	Without	One-Way Indication
A 7	A624-1B-3	Without	With	One-Way Indication
A 8	A624-1B-4	Without	Without	One-Way Indication
A 9	A624-1C-1	With	With	Two-Way Indication
A10	A624-1C-2	With	Without	Two-Way Indication
A11	A624-1C-3	Without	With	Two-Way Indication
A12	A624-1C-4	Without	Without	Two-Way Indication

ORDERING REFERENCE

12'-0" Span
Specify Plate D530, Reference Number, Assembly Number and Description.
Description: Highway Crossing Signal, Cantilever Type, 12'-0" Span

Ref. No.	Assembly Number	Junction Box	Crossing Bell	Flashing Lights on Main Mast
B 1	A624-A-1	With	With	None
B 2	A624-A-2	With	Without	None
B 3	A624-A-3	Without	With	None
B 4	A624-A-4	Without	Without	None
B 5	A624-B-1	With	With	One-Way Indication
B 6	A624-B-2	With	Without	One-Way Indication
B 7	A624-B-3	Without	With	One-Way Indication
B 8	A624-B-4	Without	Without	One-Way Indication
B 9	A624-C-1	With	With	Two-Way Indication
B10	A624-C-2	With	Without	Two-Way Indication
B11	A624-C-3	Without	With	Two-Way Indication
B12	A624-C-4	Without	Without	Two-Way Indication

WESTERN RAILROAD SUPPLY COMPANY

Detail Parts for Cantilever Type Highway Crossing Signals

A624

10' - 0" Span 12' - 0" Span

ORDERING REFERENCE
Specify Plate Number D540, Reference Number and Description

Ref. No.	Description	Piece No.
1	Cantilever Bracket and Dowel Mast, 10' - 0" Span	6509-1
1a	Cantilever Bracket and Dowel Mast, 12' - 0" Span	6508-1
2	Inspection Platform, for 10' - 0" Span	6509-2
2a	Inspection Platform, for 12' - 0" Span	6508-2
3	Ladder complete with Braces and Clamps	6508-5
4	Type 950 Flashing Light Signal Unit, Two-way Indication, with No. 5327 Roundels, for 4" I. D. Dowel Mast mounting	950A-204
4a	Type 950 Flashing Light Signal Unit, Two-way Indication, with No. 5323 Roundels, for 8" I. D. Main Mast mounting	950A-204
4b	Type 950 Flashing Light Signal Unit, One-way Indication, with No. 5323 Roundels, for 8" I. D. Main Mast mounting	950A-202
5	Pinnacle, for 8" I. D. Main Mast	6508-3
6	Pinnacle, for 4" I. D. Dowel Mast	12452
	Railroad Crossing Signs (See Catalog Section H for Details)	
7	Railroad Crossing sign, Cast iron	3320-18
7a	Railroad Crossing sign, Reflector Unit Type Vitreous Enamel finish	3380-83
7b	Railroad Crossing sign, Reflector Unit Type, Synthetic Enamel finish	3380-84
7c	Railroad Crossing sign, Reflex-Reflecting Type, sheet steel	3380-608
7d	Railroad Crossing sign, Reflex-Reflecting Type, Extruded Aluminum	3380-708
	Number of Tracks Signs (See Catalog Section H for Details) (Specify Numeral required)	
8	Number of Tracks sign, Cast Iron	16444-18
8a	Number of Tracks sign, Reflector Unit Type, Vitreous Enamel finish	3368-83
8b	Number of Tracks sign, Reflector Unit Type, Synthetic Enamel finish	3368-84
8c	Number of Tracks sign, Reflex-Reflecting Type, sheet steel	3368-608
8d	Number of Tracks sign, Reflex-Reflecting Type, Extruded Aluminum	3368-708

Continued on next page

WESTERN RAILROAD SUPPLY COMPANY

Detail Parts for Cantilever Type Highway Crossing Signals

A624

10' - 0" Span 12' - 0" Span

ORDERING REFERENCE
Specify Plate Number D540, Reference Number and Description

Ref. No.	Description	Piece No.
	"STOP ON RED SIGNAL" Signs (See Catalog Section H for Details)	
9	Stop on Red Signal sign, Reflector Unit Type, Vitreous Enamel finish	3366-83
9a	Stop On Red Signal sign, Reflector Unit Type, Synthetic Enamel finish	3366-84
9b	Stop On Red Signal sign, Reflex-Reflecting Type, sheet steel	3366-608
9c	Stop On Red Signal sign, Reflex-Reflecting Type, sheet Aluminum	3366-708
10	Junction Box, complete with terminals and "U" Bolts	1228-WB8
11	Mast and Base Assembly, for references A1 or B1	6508-4R
11a	Mast and Base Assembly, for references A2 or B2	6508-4
11b	Mast and Base Assembly, for references A3 or B3	6508-4J
11c	Mast and Base Assembly, for references A4 or B4	6508-4B
11d	Mast and Base Assembly, for references A5, A9, B5 or B9	6508-4L
11e	Mast and Base Assembly, for references A6, A10, B6 or B10	6508-4GX
11f	Mast and Base Assembly, for references A7, A11, B7 or B11	6508-4DB
11g	Mast and Base Assembly, for references A8, A12, B8 or B12	6508-4A
12	Anchor Bolt, 1 1/4" x 42" long, with hexagon nut and plain washer	2152
13	Type 222 D. C. Crossing Bell, 12" Gong, with "U" bolts, for mounting on 8" I. D. Pipe Mast, and Flexible Conduit	0222ARP

NOTE:

Drawings and Replacement Parts List will be furnished on request, for Cantilever Bracket, Inspection Platform, Conduit, Ladder or other component not listed above.

Note: Roundels Available for Flashing Lights Units are:
CL-17, 30° Horizontal Spread.
5319, 160° Horizontal Spread, 12° Down Deflection.
5321, 20° Deflecting.
5323, 30° Horizontal Spread, 15° Down Deflection.
5327, 20° Horizontal Spread, 32° Down Deflection.
5332, 70° Horizontal Spread.
5333, Diffusion-deflection Type, With Horizontal and Downward Spread.

W
RRS

Section
D

PART NO. 2

REPLACEMENT PARTS ONLY

for

Crossing Signal Light Units

and

Junctionbox Crossarms

of Design No Longer Manufactured

(See Section D for Current Designs)

WESTERN RAILROAD SUPPLY COMPANY

DIVISION OF WESTERN INDUSTRIES, INC.

MANUFACTURERS

GENERAL OFFICES and FACTORY

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Printed in U.S.A.

3M-1960

Section D

PART No. 2

CONTENTS

REPLACEMENT PARTS FOR

Type 818 Crossing Signal Light Unit ..... Plate D180

Type 880-1 Crossing Signal Light Unit ..... Plate D280

Type 880-201 Crossing Signal Light Unit ..... Plate D280A

Type 865 Junctionbox Crossarm..... Plate D290

Type 950-1 Crossing Signal Light Unit ..... Plate D380

Type 2800 Vertical Illuminated STOP Sign..... Plate D430

Type 2801 Vertical Illuminated STOP Sign..... Plate D430

References for current designs of Crossing Signal Light Units, STOP Signs, NO TURN Signs, Flashing Light Highway Crossing Signals and related items will be found in Catalog Section D, issue of 1960.

Blue Prints and Parts Lists will be furnished upon request, covering similar discontinued items not found herein.

Roundels Available for Flashing Light Units are:
CL-17, 30° Horizontal Spread.
5319, 160° Horizontal Spread, 12° Down Deflection.
5321, 20° Deflecting.
5323, 30° Horizontal Spread, 15° Down Deflection.
5327, 20° Horizontal Spread, 32° Down Deflection.
5332, 70° Horizontal Spread.
5333, Diffusion-deflection Type, With Horizontal and Downward Spread.

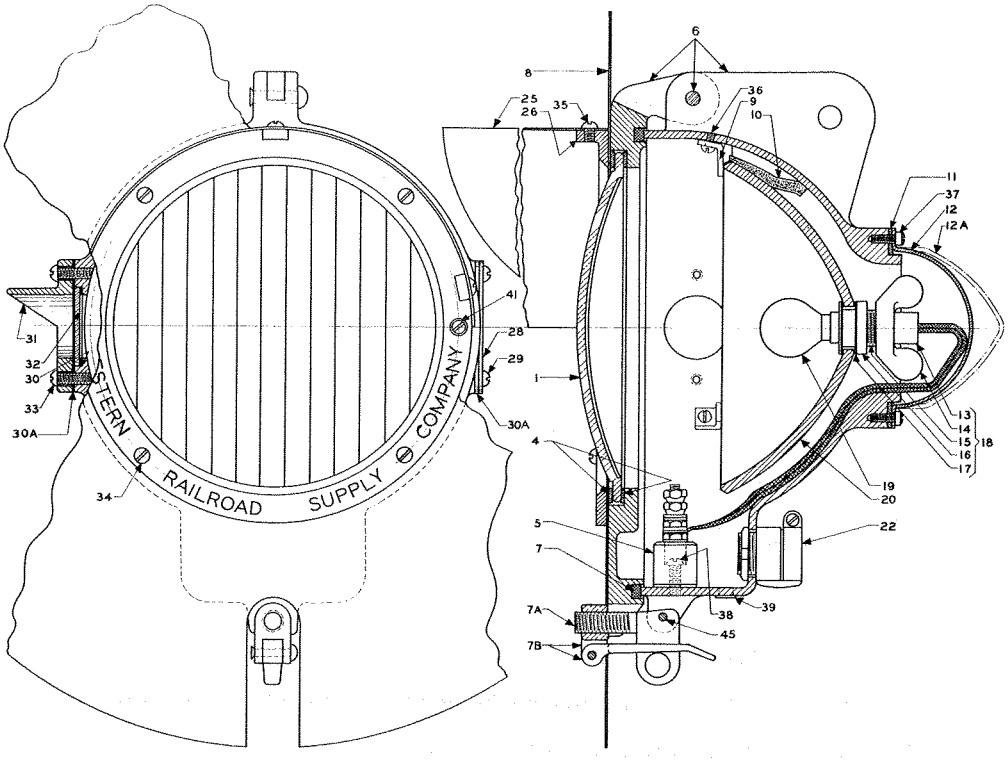
WESTERN RAILROAD SUPPLY COMPANY

Type 818 Crossing Signal Light Units

(Single Contact, Bayonet Base, Receptacle)

REPLACEMENT PARTS ONLY

(Manufacture Discontinued)



NOTE:

1 - For ordering references for replacement parts for this Light Unit, see following Page.

2 - For ordering references for replacement parts for the Type 818-103 Light Unit, with Medium Screw Base Receptacle, see Plate D180A in Catalog Section D.

1960

WESTERN RAILROAD SUPPLY COMPANY

Type 818 Crossing Signal Light Units

(Single Contact, Bayonet Base, Receptacle)

REPLACEMENT PARTS ONLY

(Manufacture Discontinued)

ORDERING REFERENCE
Specify Plate Number D180, Reference Number and Description

Ref. No.	Description	Piece No.
1	Roundel, as specified, (See Listing, Page 3)	
4	Roundel Gasket	825
5	Terminal Block, complete	1056-19
6	Case and Door, assembly	818-12
7	Packing, for door	818-18
7A	Hasp Eye Bolt	1410-11
7B	Locking Hasp and Nut, assembly	1410-31
8	Background	5312
9	Mirror Retaining Clip	858
10	Reflector Pad	880-15
11	Cap Gasket	803-7
12	Spun Aluminum Cap	803-8
12A	Large Cap, for lights with extra long receptacle	803-4
13	Lamp Receptacle	6001-2
14	Winged Clamp Nut	818-42
15	Receptacle Clamp Bushing	818-41
16	Spanner Nut	818-43
17	Fibre Washer, for clamp bushing	818-44
18	Lamp Receptacle, complete	818-46
19	Lamp, single contact, bayonet base, Specify Voltage & Wattage	
20	Parabolic Glass Reflector	832
22	Squeeze Connector, 3/4", straight	
25	Hood	823-1
26	Roundel Retaining Ring	802-1
28	Side Light Blank Cover	801-3
29	Machine Screw, 1/4"-20 x 1/2" long, Round Head, Brass	
30	Side Light Glass Gasket	818-48
30A	Side Light Hood Gasket	801-2
31	Side Light Hood	880-23
32	Side Light Glass Disc	811
33	Machine Screw, 1/4"-20 x 3/4" long, Round Head, Brass	
34	Machine Screw, #10-32 x 5/8" long, Round Head, Brass	
35	Machine Screw, 1/4"-20 x 3/8" long, Round Head, Brass	
36	Machine Screw, #8-32 x 5/16" long, Round Head, Brass	
37	Machine Screw, #10-32 x 1/2" long, Round Head, Brass	
38	Machine Screw, #10-32 x 5/8" long, Round Head, Brass	
39	Ventilator	818-49
41	Machine Screw, #10-32 x 3/8" long, Fillister Head, Brass	
45	Rivet, 1/4" x 1 1/4" long, Round Head, Brass	
46	Flexible Conduit, 3/4" x 16" long	818-51

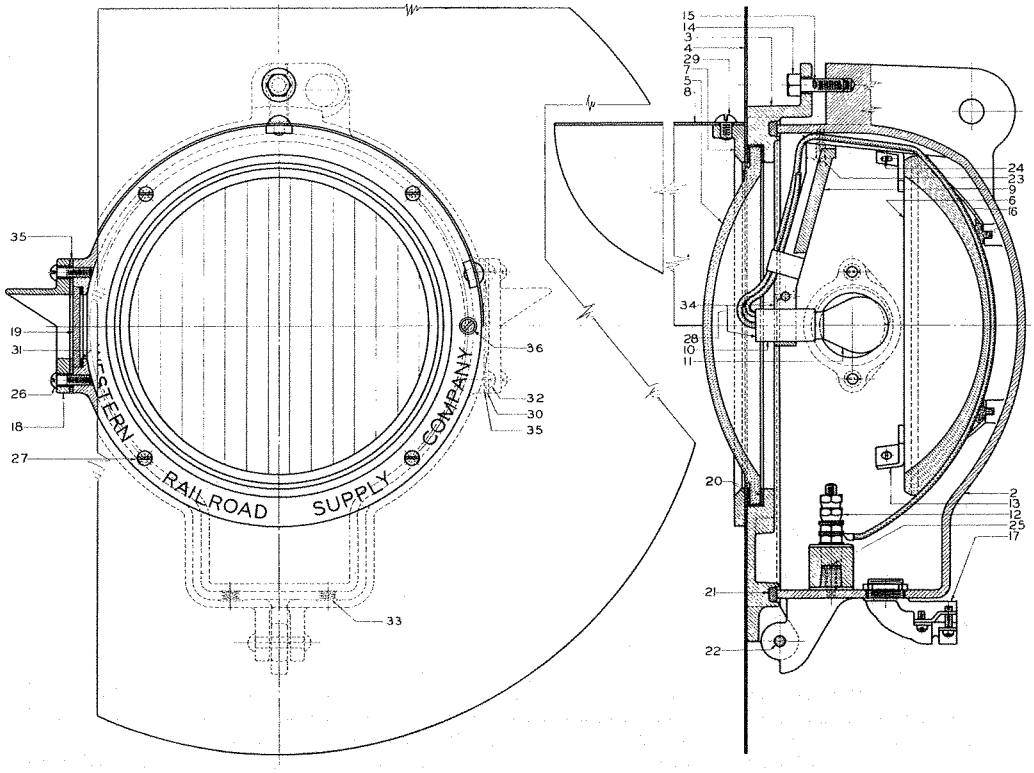
WESTERN RAILROAD SUPPLY COMPANY

Type 880-1 Crossing Signal Light Unit

(Single Contact, Bayonet Base, Receptacle)

REPLACEMENT PARTS ONLY

(Manufacture Discontinued)



NOTE:

1 - For ordering references for replacement parts for this Light Unit see following page.

2 - For ordering references for replacement parts for New Design, Type 880-201 see second and third following pages, herein.

1960

WESTERN RAILROAD SUPPLY COMPANY

Type 880-1 Crossing Signal Light Unit

(Single Contact, Bayonet Base, Receptacle)

REPLACEMENT PARTS ONLY

(Manufacture Discontinued)

ORDERING REFERENCE

Specify Plate Number D280, Reference Number and Description

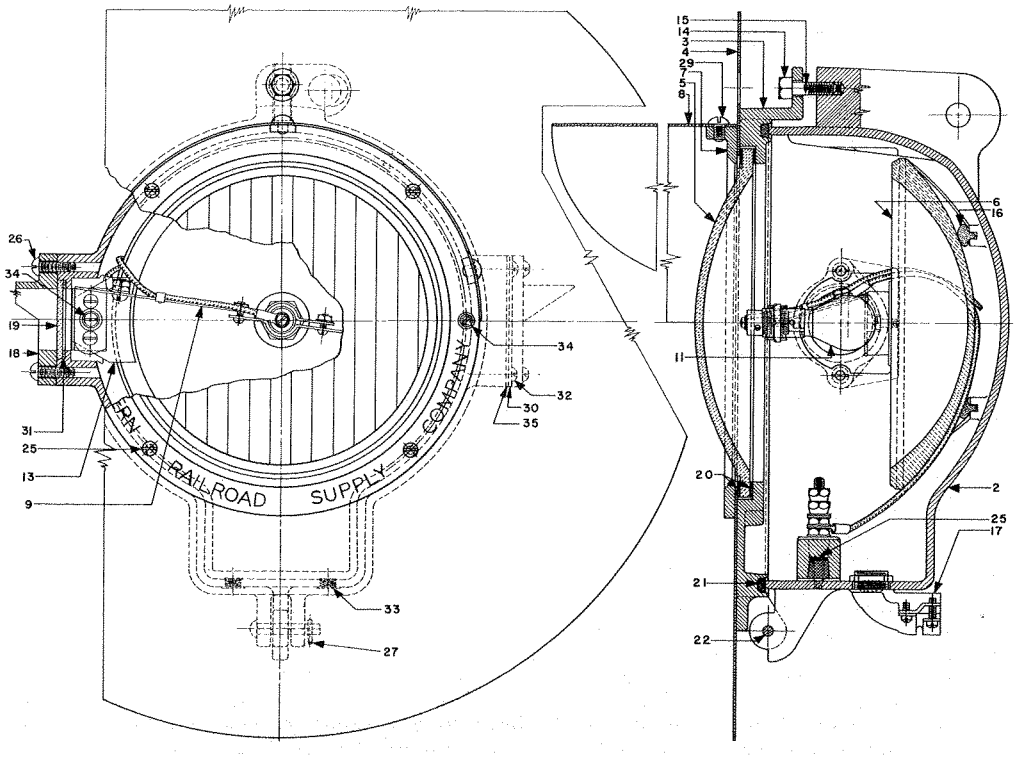
Ref. No.	Description	Piece No.
2	Case	880-11
3	Door	880-12
4	Background	880-13
5	Roundel, as specified, (See Listing, Page 3)	
6	Mangin Mirror Reflector	822
7	Roundel Retaining Ring	802-1
8	Hood	823-1
9	Lamp Bracket, also included in Ref. No. 34	844
10	Lamp Receptacle, also included in Ref. No. 34	6001-1
11	Lamp, S. C. B. B., Specify Voltage and Wattage	
12	Porcelain Terminal, also included in Ref. No. 34	1056-19
13	Reflector Retaining Clip	880-14
14	Locking Screw	880-16
15	Cotter Pin, steel, 1/16" x 3/4" long	
16	Reflector Pad	880-15
17	Squeeze Connector, 1/2" - 90°	
18	Side Light Hood	880-23
19	Side Light Glass Disc	811
20	Roundel Gasket	825
21	Packing, for door	880-18
22	Rivet, for hinge pin, 1/4" x 1 1/4" long, Round Head, Brass	
23	Machine Screw, #10-32 x 3/4" long, Round Head, Brass	
24	Machine Screw, #8-32 x 5/16" long, Round Head, Brass	
25	Machine Screw, #10-32 x 5/8" long, Round Head, Brass	
26	Machine Screw, 1/4"-20 x 3/4" long, Round Head, Brass	
27	Machine Screw, #10-32 x 5/8" long, Round Head Brass	
28	Thumb Screw, #10-32 x 5/8" long	
29	Machine Screw, 1/4"-20 x 3/8" long, Round Head Brass	
30	Side Light Blank Cover	801-3
31	Side Light Gasket, for glass Disc	818-48
32	Machine Screw, 1/4"-20 x 1/2" long, Round Head Brass	
33	Ventilator	818-49
34	Lamp Bracket with Receptacle and Terminal, assembly	880-19
35	Side Light Hood Gasket	801-2
36	Machine Screw, #10-32 x 3/8" long, Fillister Head, Brass	

Type 880-201 Crossing Signal Light Unit

IMPROVED DESIGN

REPLACEMENT PARTS ONLY

(Manufacture Discontinued)



NOTE:

For ordering references for replacement parts for this light unit see following page.

For ordering references for replacement parts for the "Old Design" of Type 880-1 Light Units see Plate D280, herein.

1941

WESTERN RAILROAD SUPPLY COMPANY

Type 880-201 Crossing Signal Light Units

IMPROVED DESIGN

REPLACEMENT PARTS ONLY

(Manufacture Discontinued)

ORDERING REFERENCE

Specify Plate Number D280A, Reference Number and Description

Ref. No.	Description	Piece No.
2	Case	880-11A
3	Door	880-12
4	Background	880-13
5	Roundel, as specified. (see Listing Page 3)	
6	Mangin Mirror Reflector	822
7	Roundel Retaining Ring	802-1
8	Hood	823-1
9	Lamp Bracket and Receptacle	950-250A
9a	Lamp Receptacle and Adjusting Nut Only	950-255
11	Lamp, S. C. B. B.,(Specify Voltage and Wattage)	
13	Reflector Retaining Plate	880-211
14	Locking Screw	880-16
15	Cotter Pin, 1/16" x 3/4" long, steel	
16	Reflector Pad	880-15
17	Squeeze Connector, 1/2", 90°	
18	Side Light Hood	880-23
19	Side Light Glass Disc	811
20	Roundel Gasket	825
21	Door Packing	880-18
22	Hinge Pin, Brass	950-259
25	Machine Screw, #10-32 x 5/8" long, Round Head, Brass	
26	Machine Screw, 1/4"-20 x 3/4" long, Round Head, Brass	
27	Cotter Pin, 3/32" x 5/8" long, Brass	
29	Machine Screw, 1/4"-20 x 3/8" long, Round Head, Brass	
30	Sidelight Blanking Plate	801-3
31	Sidelight Gasket	818-48
32	Machine Screw, 1/4"-20 x 1/2" long, Round Head Brass	
33	Ventilator	818-49
34	Machine Screw, #10-32 x 3/8" long, Fillister Head Brass	
35	Gasket for Light units with blanked sidelights	801-2

WESTERN RAILROAD SUPPLY COMPANY

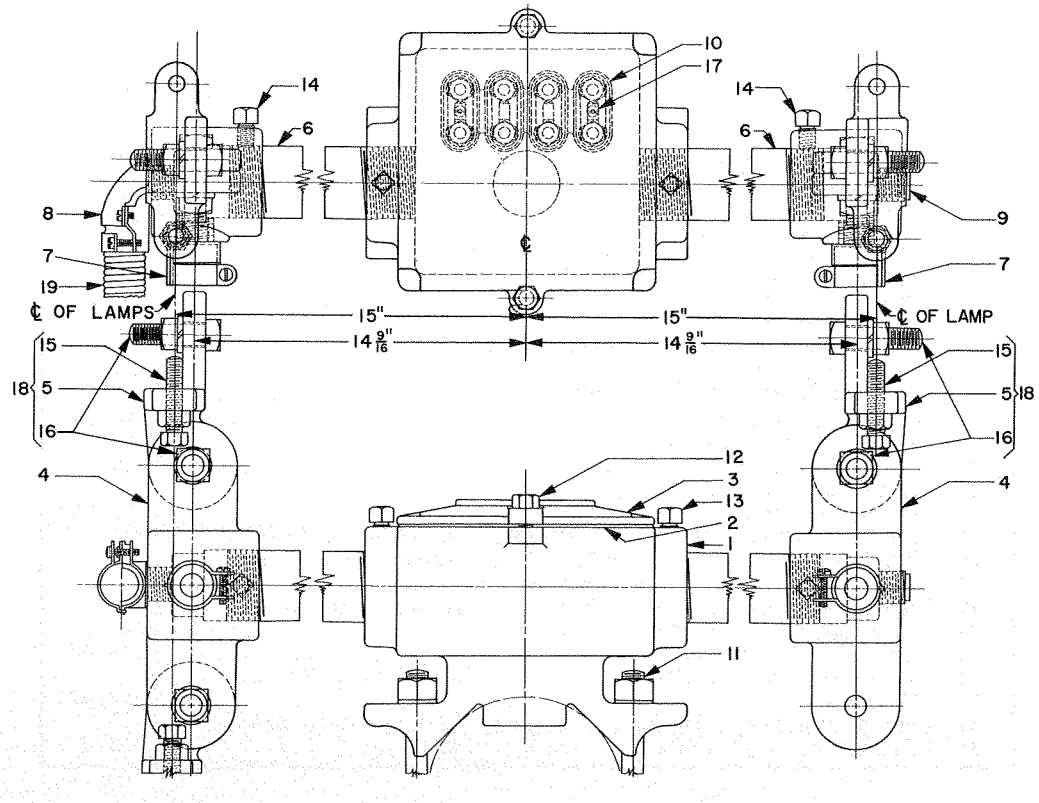
Type 865 Junctionbox Crossarm

REPLACEMENT PARTS ONLY

(Manufacture Discontinued)

The Type 865 Junctionbox Crossarm was formerly supplied for mounting Crossing Signal Light Units, Types 806, 818-1, 880 and 880-1.

For Complete Junctionbox Crossarm for mounting these types of Light Units see Type 950-818, Plate D170A, in Catalog Section D, issue of 1960.



For ordering references for replacement parts for this Junctionbox Crossarm, see following page.

WESTERN RAILROAD SUPPLY COMPANY

Type 865 Junctionbox Crossarm

REPLACEMENT PARTS ONLY

(Manufacture Discontinued)

ORDERING REFERENCE
Specify Plate Number D290, Reference Number and Description

Ref. No.	Description	Piece No.
1	Junctionbox	864-1
2	Gasket	866-1
3	Cover	859-1
4	Adaptor, tapped for 1/2" squeeze connector	865-1
4A	Adaptor, tapped for 3/4" squeeze connector	865-1A
5	Link	807
6	Pipe Extension	865-9
7	Squeeze Connector, Straight, for 1/2" flexible conduit	
7A	Squeeze Connector, Straight, for 3/4" flexible conduit	
8	Squeeze Connector, 90° for 1/2" flexible conduit	
8A	Squeeze Connector, 90° for 3/4" flexible conduit	
9	Pipe Plug, 1/2"	
9A	Pipe Plug, 3/4"	
10	Terminal Block, with 8 Binding Posts	2506-14
11	"U" Bolt, with nuts and washers, for 4" I. D. Pipe Mast	865-6
11A	"U" Bolt, with nuts and washers, for 5" I. D. Pipe Mast	865-7
11B	"U" Bolt, with nuts and washers, for 3 1/2" I. D. Pipe Mast	865-8
12	Cap Screw, 5/16" -18 x 7/8" long, Hexagon Head, Steel	
13	Set Screw, 3/8" -16 x 3/4" long, Square Head, Cup Point	
14	Set Screw, 5/16" -18 x 5/8" long, Square Head, Cup Point	
15	Cap Screw, with Hexagon Nut, 3/8" -16 x 1-3/4" long, Hexagon Head, Steel	
16	Bolt, with Square Nut and Lock Washer, 1/2" -13 x 1 3/4" long, Square Head, Steel	
17	Machine Screw, #8-32 x 3/4" long, Round Head, Brass	
18	Link Assembly, complete, includes Ref. No. 5, 15 and 16	807-1
19	Flexible Metalic Conduit, 1/2" x 16" long	880-22
19A	Flexible Metalic Conduit, 3/4" x 16" long	818-51

NOTE:
For complete Junctionbox Crossarm substitute for Type 865, see Type 950-818, Plate D170A, in Catalog Section D, issue of 1960.

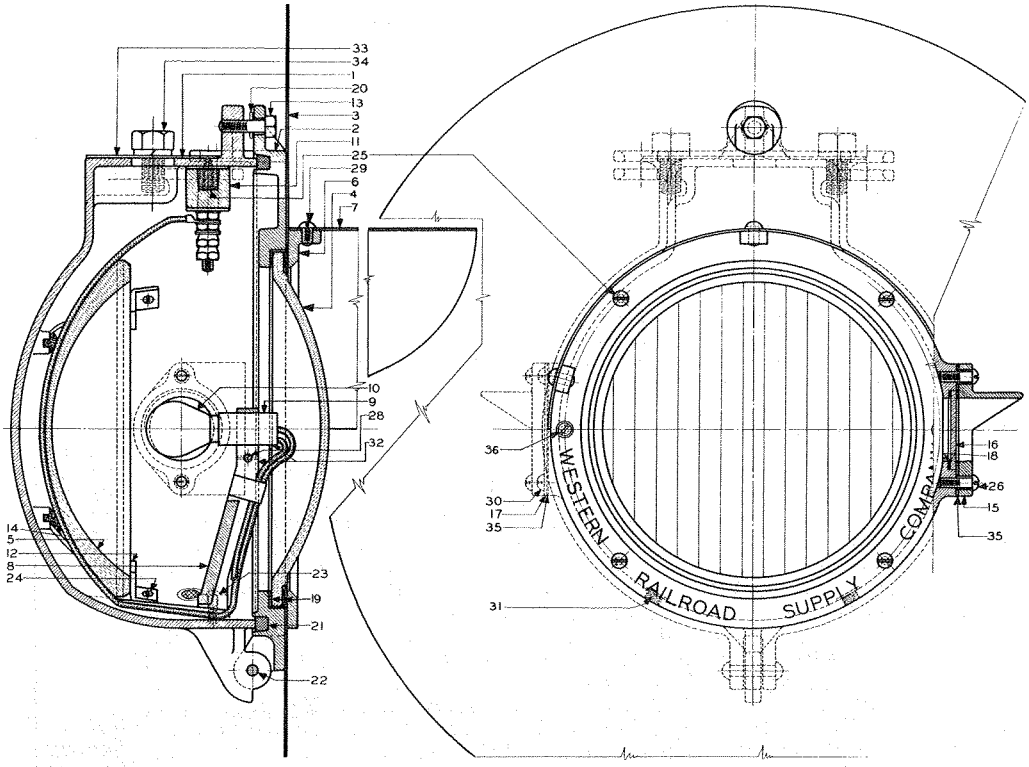
WESTERN RAILROAD SUPPLY COMPANY

Type 950-1 Crossing Signal Light Unit

ORIGINAL DESIGN

REPLACEMENT PARTS ONLY

(Manufacture Discontinued)



NOTE:

1 - For replacement parts for this Light Unit see following page.

2 - For replacement parts for current design of Type 950-201 Light Unit see Plate D380A in Section D, issue of 1960.

1937

WESTERN RAILROAD SUPPLY COMPANY

Type 950-1 Crossing Signal Light Unit

ORIGINAL DESIGN

REPLACEMENT PARTS ONLY

(Manufacture Discontinued)

ORDERING REFERENCE
Specify Plate Number D380, Reference Number and Description

Ref. No.	Description	Piece No.
1	Case	950-11
2	Door	950-12
3	Background	950-13
4	Roundel, as specified, (see Listing, Page 3)	
5	Mangin Mirror Reflector	822
6	Roundel Retaining Ring	802-1
7	Hood	823-1
8	Lamp Bracket	844
9	Lamp Receptacle	6001-1
10	Lamp Bulb, S. C. B. B., (Specify Voltage and Wattage)	
11	Porcelain Terminal	1056-19
12	Reflector Retaining Clip	880-14
13	Locking Screw	880-16
14	Reflector Pad	880-15
15	Side Light Hood	880-23
16	Side Light Glass Disc	811
17	Sidelight Blanking Plate	801-3
18	Sidelight Gasket	818-48
19	Roundel Gasket	825
20	Cotter Pin, 1/16" x 3/4" long, steel	
21	Door Packing	880-18
22	Hinge Pin, Rivet, 1/4" x 1 1/4" long, Round Head, Brass	
23	Machine Screw, #10-32 x 3/4" long, Round Head, Brass	
24	Machine Screw, #8-32 x 5/16" long, Round Head, Brass	
25	Machine Screw, #10-32 x 5/8" long, Round Head, Brass	
26	Machine Screw, 1/4"-20 x 3/4" long, Round Head, Brass	
28	Thumb Screw, #10-32 x 5/8" long, Brass	
29	Machine Screw, 1/4"-20 x 3/8" long, Round Head, Brass	
30	Machine Screw, 1/4"-20 x 1/2" long, Round Head, Brass	
31	Ventilator	818-49
32	Lamp Receptacle, Bracket and Terminal Assembly	880-19
33	Gasket	950-17
34	Cap Screw, 1/2" x 1 1/4" long, with lock washer, Hex. Head	
35	Sidelight Hood Gasket	801-2
36	Machine Screw, #10-32 x 3/8" long, Fillester Head, Brass	

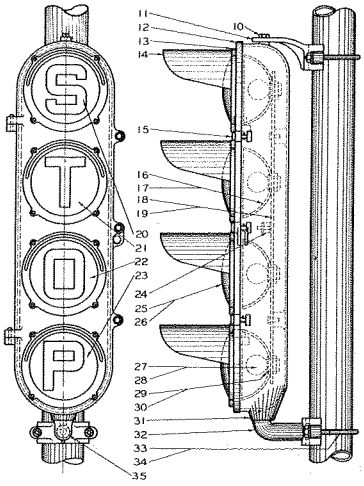
WESTERN RAILROAD SUPPLY COMPANY

Vertical Illuminated STOP Signs

WITH PARABOLIC GLASS REFLECTORS

Type 2800 with Single Contact, Bayonet Base, Receptacles
Type 2801 with Medium Screw Base Receptacles

REPLACEMENT PARTS ONLY
(Manufacture Discontinued)



ORDERING REFERENCE

Specify Plate Number D430, Reference Number and Description

Ref. No.	Description	Piece No.
10	Cap screw with iron washer	
11	Top support	2805
12	Door	2802–1
13	Roundel retaining ring	2954
14	Hood	2821
15	Locking bolt with theft resisting cup washer, iron washer, and cotter pin	2806–1
16	Parabolic glass reflector (for Type 2800 Unit only)	832
17	Parabolic glass reflector (for Type 2801 Unit only)	2850–10
18	Reflector support (for Type 2800 Unit only)	2810
19	Reflector support (for Type 2801 Unit only)	2807
20	Sand-blasted glass letter "S"	2856
20a	Metal cutout letter "S"	1806–626
21	Sand-blasted glass letter "T"	2857
21a	Metal cutout letter "T"	1806–627
22	Sand-blasted glass letter "O"	2858
22a	Metal cutout letter "O"	1806–628
23	Sand-blasted glass letter "P"	2859
23a	Metal cutout letter "P"	1806–629
24	Terminal block	1056–10
25	Red convex roundel	
26	Red flat roundel	
29	Assembly of lamp receptacle and bushing for Type 2800 Unit	2850–1
30	Assembly of lamp receptacle and bushing for Type 2801 Unit	2820–1
31	Housing	2803–1
32	Bottom bracket	2804
33	U-bolt for 4″ I.D. pipe post complete with nuts and washers	1207–1
34	U-Bolt for 5″ I.D. pipe post complete with nuts and washers	1207–2
34a	U-Bolt for 3½″ I.D. pipe post complete with nuts and washers	1207–3
35	Seal packing ring	2864

NOTE:

For ordering references for new design, with Mangin Mirror reflectors See Plate D430A in Catalog Section D, Issue of 1960.

W
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Section

E

Signaling Accessories *and* Track Appliances

WESTERN RAILROAD SUPPLY COMPANY

MANUFACTURERS

General Offices and Factory
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Chicago, Illinois

•

District Offices in

New York, N. Y.
Cleveland, Ohio
St. Louis, Mo.
Denver, Colo.
Houston, Tex.

Printed in U. S. A.
1937

Section E

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Feet of Track	No. of Joints	Bond Wires Required	Single Groove Pins Required	Double Groove Pins Required	Manufactured Bonds Required
For 33 Foot Rail					
100	7	14	28	14	7
200	13	26	52	26	13
300	19	38	76	38	19
500	31	62	124	62	31
1000	61	124	248	124	61
1500	91	182	364	182	91
2000	122	244	488	244	122
½ Mile	160	320	640	320	160
3000	182	364	728	364	182
4000	243	486	972	486	243
5000	304	608	1216	608	304
1 Mile	320	640	1280	640	320
6000	364	728	1456	728	364
For 39 Foot Rail					
100	6	12	24	12	6
200	11	22	44	22	11
300	16	32	64	32	16
500	26	52	104	52	26
1000	52	104	208	104	52
1500	77	154	308	154	77
2000	103	206	412	206	103
½ Mile	136	272	544	272	136
3000	154	308	616	308	154
4000	206	412	824	412	206
5000	257	514	1028	514	257
1 Mile	271	542	1084	542	271
6000	308	616	1232	616	308

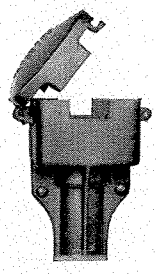
Speed Table For Crossing Signal Starts

Seconds		10	15	20	25	30	35	40	45	50	55	60
Miles Per Hour	Feet Per Second	Distance Traveled in Feet										
1	1.46	14.6	22.0	29.3	36.6	44.0	51.3	58.6	66.0	73.3	80.6	88.0
2	2.93	29.3	44.0	58.6	73.3	88.0	102.6	117.3	132.0	146.6	161.3	176.0
3	4.4	44	66	88	110	132	154	176	198	220	242	264
4	5.86	58.6	88	117.3	146.6	176	205.3	334.6	264	293.3	322.6	352
5	7.3	73	110	147	183	220	257	293	330	367	403	440
10	14.6	146	220	293	366	440	513	587	660	733	807	880
15	22.0	220	330	440	550	660	770	880	990	1,100	1,210	1,320
20	29.3	293	440	587	733	880	1,027	1,173	1,320	1,467	1,613	1,760
25	36.7	367	550	733	917	1,100	1,283	1,467	1,650	1,833	2,017	2,200
30	44.0	440	660	880	1,100	1,320	1,540	1,760	1,980	2,200	2,420	2,640
35	51.3	513	770	1,027	1,283	1,540	1,797	2,053	2,310	2,567	2,823	3,080
40	58.7	587	880	1,173	1,467	1,760	2,053	2,347	2,640	2,933	3,227	3,520
45	66.0	660	990	1,320	1,650	1,980	2,310	2,640	2,970	3,300	3,630	3,960
50	73.3	733	1,100	1,467	1,833	2,200	2,567	2,933	3,300	3,667	4,033	4,400
55	80.7	807	1,210	1,613	2,017	2,420	2,833	3,227	3,630	4,033	4,437	4,840
60	88.0	880	1,320	1,760	2,200	2,640	3,080	3,520	3,960	4,400	4,840	5,280
65	95.3	953	1,430	1,907	2,383	2,860	3,337	3,813	4,290	4,767	5,243	5,720
70	102.7	1,027	1,540	2,053	2,567	3,080	3,593	4,107	4,620	5,133	5,647	6,160
75	110.0	1,100	1,650	2,200	2,750	3,300	3,850	4,400	4,590	5,500	6,056	6,600
80	117.3	1,173	1,760	2,347	2,933	3,520	4,107	4,693	5,280	5,867	6,453	7,040
85	124.7	1,247	1,870	2,493	3,117	3,740	4,363	4,987	5,610	6,233	6,875	7,480
90	132.0	1,320	1,980	2,640	3,300	3,960	4,620	5,280	5,940	6,600	7,260	7,920
95	139.3	1,393	2,090	2,787	3,483	4,180	4,877	5,573	6,270	6,967	7,663	8,360
100	146.7	1,467	2,200	2,933	3,667	4,400	5,133	5,867	6,600	7,333	8,067	8,800
105	154.0	1,540	2,310	3,080	3,850	4,620	5,390	6,160	6,930	7,700	8,470	9,240
110	161.3	1,613	2,420	3,227	4,033	4,840	5,647	6,453	7,260	8,067	8,873	9,680
115	168.6	1,686	2,530	3,373	4,217	5,066	5,903	6,747	7,590	8,434	9,277	10,120
120	176.0	1,760	2,640	3,520	4,400	5,280	6,160	7,040	7,920	8,800	9,680	10,560
125	183.3	1,833	2,750	3,667	4,583	5,500	6,417	7,334	8,250	9,167	10,084	11,000
130	190.7	1,907	2,860	3,813	4,767	5,720	6,673	7,627	8,580	9,534	10,487	11,440

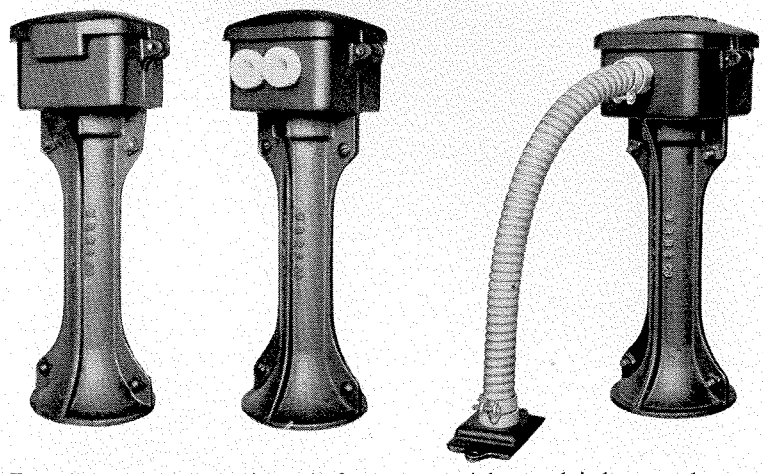
NOTE: Where length of track circuit is known time in seconds can be determined by dividing its length in feet by "Feet Per Second" at train speed selected.

WESTERN RAILROAD SUPPLY COMPANY

Type 1160 Bootlegs



Detail of Wire Outlet Opening.



Type 1160 Bootlegs were designed for use with multiple conductor cables. Any type of bushing or connector may be furnished with this bootleg, and as many as four A.A.R. Terminal Blocks may be installed in the head. Height, 17″ overall; riser, 2″ I.D.; head, $4\frac{5}{16}$″ square by $3\frac{1}{4}$″ deep.

ORDERING REFERENCE
Specify Plate Number E5, Reference Number, and Description

Ref. No.	Description	Piece No.
	Bootlegs With Wire Outlet Openings	
1	Type 1160 Bootleg with wire outlet opening on one side and 1 A.A.R. porcelain terminal block	1160–31A
2	Type 1160 Bootleg with wire outlet opening on one side and 2 A.A.R. porcelain terminal blocks	1160–32A
3	Type 1160 Bootleg with wire outlet opening on one side and 3 A.A.R. porcelain terminal blocks	1160–33A
4	Type 1160 Bootleg with wire outlet opening on one side and 4 A.A.R. porcelain terminal blocks	1160–34A
5	Type 1160 Bootleg with wire outlet opening on each side and 1 A.A.R. porcelain terminal block	1160–31
6	Type 1160 Bootleg with wire outlet opening on each side and 2 A.A.R. porcelain terminal blocks	1160–32
7	Type 1160 Bootleg with wire outlet opening on each side and 3 A.A.R. porcelain terminal blocks	1160–33
8	Type 1160 Bootleg with wire outlet opening on each side and 4 A.A.R. porcelain terminal blocks	1160–34
	Bootlegs With Porcelain Bushings	
9	Type 1160 Bootleg with 1 porcelain bushing and 1 A.A.R. porcelain terminal block	1160–11
10	Type 1160 Bootleg with 2 porcelain bushings and 1 A.A.R. porcelain terminal block	1160–12
11	Type 1160 Bootleg with 2 porcelain bushings and 2 A.A.R. porcelain terminal blocks	1160–13

A. A. R. type bakelite terminal block can be furnished with any of these bootlegs. See Plate E60.

Additional Type 1160 Bootlegs on following page.

WESTERN RAILROAD SUPPLY COMPANY

Type 1160 Bootlegs
(Continued)

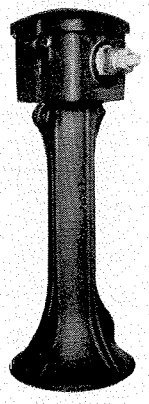
ORDERING REFERENCE
Specify Plate Number E5, Reference Number, and Description

Ref. No.	Description	Piece No.
12	Type 1160 Bootleg with 2 porcelain bushings and 3 A.A.R. porcelain terminal blocks	1160–14
13	Type 1160 Bootleg with 2 A.A.R. porcelain terminal blocks and 2 1 1/16″ holes for bushings	1160–17
	Bootlegs With Squeeze Connectors	
14	Type 1160 Bootleg with 1 squeeze connector (specify size) and 1 A.A.R. porcelain terminal block	1160–41
15	Type 1160 Bootleg with 1 squeeze connector (specify size) and 2 A.A.R. porcelain terminal blocks	1160–42
16	Type 1160 Bootleg with 1 squeeze connector (specify size) and 3 A.A.R. porcelain terminal blocks	1160–43
17	Type 1160 Bootleg with 1 squeeze connector (specify size) and 4 A.A.R. porcelain terminal blocks	1160–44
18	Type 1160 Bootleg with 2 1″ squeeze connectors on same side (no terminals)	1160–47
19	Type 1160 Bootleg with 2 1″ squeeze connectors, one on each opposite side (no terminals)	1160–48
20	Type 1160 Bootleg with 2 1½″ squeeze connectors, one on each opposite side and 4 A.A.R. porcelain terminal blocks	1160–49
	Bootlegs With Flexible Connections	
21	Type 1160 Bootleg with Type 1701 Flexible Connection with Cover Plate for C.R.S. & S. Co. Switch Circuit Controller (1″ conduit)	1160–45 and 1701–11
22	Type 1160 Bootleg with Type 1701 Flexible Connection with Cover Plate for C.R.S. & S. Co. Switch Circuit Controller (1½″ conduit).	1160–46 and 1701–12
23	Type 1160 Bootleg with Type 1702 Flexible Connection with Cover Plate for G.R.S. Model 5 Switch Circuit Controller (1″ conduit)	1160–45 and 1702–11
24	Type 1160 Bootleg with Type 1702 Flexible Connection with Cover Plate for G.R.S. Model 5 Switch Circuit Controller (1½″ conduit)	1160–46 and 1702–12
25	Type 1160 Bootleg with Type 1705 Flexible Connection with Cover Plate for U.S. & S. Co. U-5 Switch Circuit Controller (1″ circuit)	1160–45 and 1705–11
26	Type 1160 Bootleg with Type 1705 Flexible Connection with Cover Plate for U.S. & S. Co. U-5 Switch Circuit Controller (1½″ conduit).	1160–46 and 1705–12
	Bootlegs For Use With Flexible Connection	
27	Type 1160 Bootleg for use with 1″ flexible connection	1160–45
28	Type 1160 Bootleg for use with 1½″ flexible connection	1160–46
	Replacement Parts	
29	Cover for Bootlegs Ref. 1 through Ref. 8	1160–25
30	Cover for Bootlegs Ref. 9 through Ref. 28	1155–22
31	A.A.R. porcelain terminal block	1056–10
32	A4 porcelain bushing	1138
33	Squeeze connector (specify size)	
34	Type 1701 Flexible Connection with Cover Plate for C.R.S. & S. Co. Switch Circuit Controller (1″ conduit)	1701–11
35	Type 1701 Flexible Connection with Cover Plate for C.R.S. & S. Co. Switch Circuit Controller (1½″ conduit)	1701–12
36	Type 1702 Flexible Connection with Cover Plate for G.R. S. Model 5 Switch Circuit Controller (1″ conduit)	1702–11
37	Type 1702 Flexible Connection with Cover Plate for G.R.S. Model 5 Switch Circuit Controller (1½″ conduit)	1702–12
38	Type 1705 Flexible Connection with Cover Plate for U.S. & S. Co. U-5 Switch Circuit Controller (1″ conduit)	1705–11
39	Type 1705 Flexible Connection with Cover Plate for U.S. & S. Co. U-5 Switch Circuit Controller (1½″ conduit)	1705–12

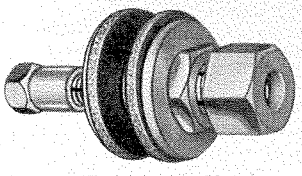
Flexible Connections are shown on Plate E70.

Type 1165 Bootlegs

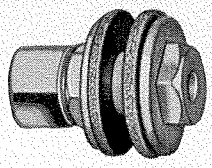
WITH MECHANICAL CONNECTORS



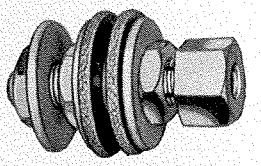
Type 1165 Bootleg



Type 1170-32

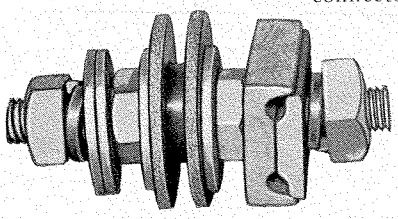


Type 1170-39

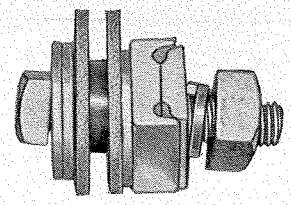


Type 1170-41

(Specify size of parkway cable wire and stranded bond for above connectors)



Type 1155-39 for 7 No. 10 A.W.G., 7 No. 12 A.W.G. or 7 No. 14½ B.W.G. wires, or Type 1155-41 for No. 6 B. & S. G. solid wires



Type 1155-31 for 7 No. 10 A. W. G., 7 No. 12 A. W. G., or 7 No. 14½ B. W. G. wires, or Type 1155-49 for No. 6 B. & S. G. solid wires

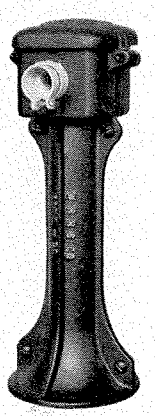
Type 1165 Bootlegs can be furnished with mechanical connectors as shown above or any other type of connector as specified. Height, 16″ over-all; riser 2″ I.D.; head $3\frac{9}{16}$″ square by 3¼″ deep.

ORDERING REFERENCE

Specify Plate Number E10, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1165 Bootleg with 1 Type 1170-32 Connector (Specify sizes of parkway cable wire and stranded bond)	1165–29
2	Type 1165 Bootleg with 1 Type 1170–39 Connector (Specify size of stranded bond)	1165–19
3	Type 1165 Bootleg with 1 Type 1170–41 Connector (Specify size of stranded bond)	1165–26
4	Type 1165 Bootleg with 1 Type 1155-39 Connector	1165–18
5	Type 1165 Bootleg with 1 Type 1155-41 Connector	1165–27
6	Type 1165 Bootleg with 1 Type 1155-31 Connector	1165–21
7	Type 1165 Bootleg with 1 Type 1155-49 Connector	1165–17
	Replacement Parts	
8	Cover only for bootlegs with mechanical connectors	1165–221
9	Type 1170-32 Connector (Specify size of parkway cable wire and stranded bond)	1170–32
10	Type 1170–39 Connector (Specify size of stranded bond)	1170–39
11	Type 1170-41 Connector (Specify size of stranded bond)	1170–41
12	Type 1155-39 Connector	1155–39
13	Type 1155-41 Connector	1155–41
14	Type 1155-31 Connector	1155–31
15	Type 1155–49 Connector	1155–49

See Plate E65 for description of mechanical connectors. Additional Type 1165 Bootlegs on following pages.



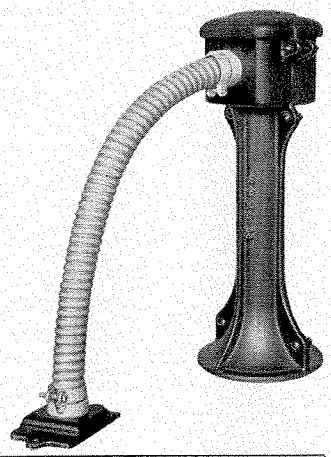
Type 1165 Bootlegs

WITH SQUEEZE CONNECTORS AND WITH FLEXIBLE CONNECTIONS

For use with single conductor or small, multiple conductor cables.

Two A.A.R. Terminal Blocks may be installed in the head.

Height: 16″ overall. Riser: 2″ I.D. Head: $3\frac{9}{16}$″ sq. x 3¼″ deep.



ORDERING REFERENCE

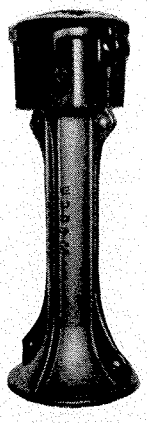
Specify Plate Number E10, Reference Number, and Description

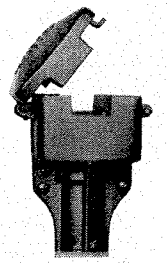
Ref. No.	Description	Piece No.
	Bootlegs With Squeeze Connectors	
23	Type 1165 Bootleg with 1 squeeze connector (specify size) and 1 A.A.R. Terminal Block	1165–41
24	Type 1165 Bootleg with 1 squeeze connector (specify size) and 2 A.A.R. Terminal Blocks	1165–42
	Bootlegs With Flexible Connections	
25	Type 1165 Bootleg with Type 1701 Flexible Connection with Cover for C.R.S. & S. Co. Switch Circuit Controller (1″ conduit)	1165–48 and 1701–11
26	Type 1165 Bootleg with Type 1701 Flexible Connection with Cover Plate for C.R.S. & S. Co. Switch Circuit Controller (1½″ conduit)	1165–49 and 1701–12
27	Type 1165 Bootleg with Type 1702 Flexible Connection with Cover Plate for G.R.S. Model 5 Switch Circuit Controller (1″ conduit)	1165–48 and 1702–11
28	Type 1165 Bootleg with Type 1702 Flexible Connection with Cover Plate for G.R.S. Model 5 Switch Circuit Controller (1½″ conduit)	1165–49 and 1702–12
29	Type 1165 Bootleg with Type 1705 Flexible Connection with Cover Plate for U.S. & S. Co. U-5 Switch Circuit Controller (1″ conduit)	1165–48 and 1705–11
30	Type 1165 Bootleg with Type 1705 Flexible Connection with Cover Plate for U.S. & S. Co. U-5 Switch Circuit Controller (1½″ conduit)	1165–49 and 1705–12
31	Type 1165 Bootleg only for use with Flexible Connection (for 1″ conduit)	1165–48
32	Type 1165 Bootleg only for use with Flexible Connection (for 1½″ conduit)	1165–49
	Replacement Parts	
33	Cover only	1165–221
34	Squeeze connector only (specify size)	
35	Type 1701 Flexible Connection with Cover Plate for C.R.S. & S. Co. Switch Circuit Controller (1″ conduit)	1701–11
36	Type 1701 Flexible Connection with Cover Plate for C.R.S. & S. Co. Switch Circuit Controller (1½″ conduit)	1701–12
37	Type 1702 Flexible Connection with Cover Plate for G.R.S. Model 5 Switch Circuit Controller (1″ conduit)	1702–11
38	Type 1702 Flexible Connection with Cover Plate for G.R.S. Model 5 Switch Circuit Controller (1½″ conduit)	1702–12
39	Type 1705 Flexible Connection with Cover Plate for U. S. & S. Co. U-5 Switch Circuit Controller (1″ conduit)	1705–11
40	Type 1705 Flexible Connection with Cover Plate for U.S. & S. Co. U-5 Switch Circuit Controller (1½″ conduit)	1705–12

Additional Type 1165 Bootlegs on following page.

WESTERN RAILROAD SUPPLY COMPANY

Type 1165 Bootlegs

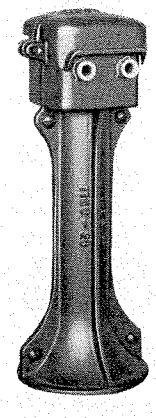




Detail of Wire Outlet Opening

WITH WIRE OUTLET OPENINGS AND WITH INSULATED BUSHINGS AND CHASE NIPPLES

Type 1165 Bootleg is for use with single conductor or small, multiple conductor cables. Two A.A.R. porcelain terminal blocks may be installed in the head. Height, 16″ overall; riser, 2″ I.D.; head, $3\frac{9}{16}$″ square by 3¼″ deep.

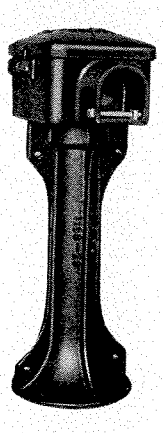


ORDERING REFERENCE

Specify Plate Number E10, Reference Number, and Description

Ref. No.	Description	Piece No.
	Bootlegs With Wire Outlet Opening	
41	Type 1165 Bootleg with wire outlet opening on one side and 1 A.A.R. porcelain terminal block	1165–31A
42	Type 1165 Bootleg with wire outlet opening on one side and 2 A.A.R. porcelain terminal blocks	1165–32A
43	Type 1165 Bootleg with wire outlet opening on each side and 1 A.A.R. porcelain terminal block	1165–31
44	Type 1165 Bootleg with wire outlet opening on each side and 2 A.A.R. porcelain terminal blocks	1165–32
	Bootlegs With Insulated Bushings	
45	Type 1165 Bootleg with 1 fibre bushing and 1 A.A.R. porcelain terminal block	1165–53
46	Type 1165 Bootleg with 1 fibre bushing less terminal blocks	1165–51
47	Type 1165 Bootleg with 2 fibre bushings and 2 A.A.R. porcelain terminal blocks	1165–54
48	Type 1165 Bootleg with 2 fibre bushings less terminal blocks	1165–52
49	Type 1165 Bootleg with 1 porcelain bushing and 1 A.A.R. porcelain terminal block	1165–22
50	Type 1165 Bootleg with 1 porcelain bushing less terminal blocks	1165–57
51	Type 1165 Bootleg with 2 porcelain bushings and 2 A.A.R. porcelain terminal blocks	1165–58
52	Type 1165 Bootleg with 2 porcelain bushings less terminal blocks	1165–59
	Bootlegs With Chase Nipples	
53	Type 1165 Bootleg with one ¾″ chase nipple	1165–55
54	Type 1165 Bootleg with two ¾″ chase nipples	1165–56
	Replacement Parts	
55	Cover for Bootlegs Ref. 41 through Ref. 44	1165–25
56	Cover for Bootlegs Ref. 45 through Ref. 54	1165–11
57	Fibre bushing (½″ I.D. x ⅞″ O.D.) (Does not include spring Ref. 58)	1165–12
58	Locking spring for fibre bushing	531
59	Porcelain bushing (A4)	1138
60	¾″ chase nipple	

Type 1168 Bootlegs



Type 1168 Bootleg was designed for use in terminating multiple cables. Five terminals providing ten binding posts can be installed in the head. The clamp extension is constructed for 1½″ flexible metallic conduit.

Height, 17″ overall; riser, 2″ I.D.; head, $4\frac{15}{16}$″ square by 3¼″ deep.

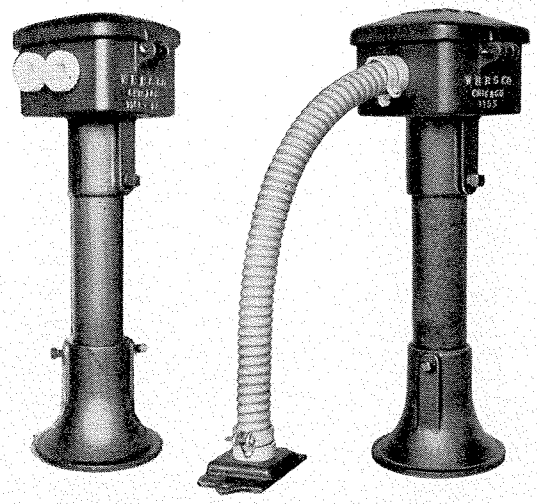
ORDERING REFERENCE

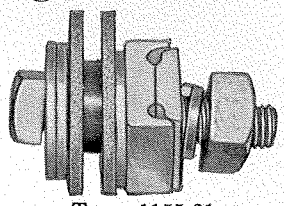
Specify Plate Number E15, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1168 Bootleg, less terminal blocks	1168–0
2	Type 1168 Bootleg, with 1 A.A.R. porcelain terminal block	1168–1
3	Type 1168 Bootleg, with 2 A.A.R. porcelain terminal blocks	1168–2
4	Type 1168 Bootleg, with 3 A.A.R. porcelain terminal blocks	1168–3
5	Type 1168 Bootleg, with 4 two-post bakelite terminal blocks	1168–4
6	Type 1168 Bootleg, with 5 two-post bakelite terminal blocks	1168–5
	Replacement Parts	
7	Cover	1168–21
8	A.A.R. porcelain terminal block (terminals spaced 2⅜″ c.c.)	1056–10
9	Two-post bakelite terminal block (terminals spaced 1″ c.c.)	2506–11
10	1½″ diameter flexible metallic conduit (18″ long unless otherwise specified)	
11	1½″ straight squeeze connector for flexible metallic conduit	

NOTE: Bakelite terminal block with posts spaced 2⅜″ c.c. may be furnished with this bootleg. See Plate E60.

Type 1155 Bootlegs





Type 1155-31
Connector or any other connector may be furnished with this bootleg

Type 1155 Bootleg has an extra large head and is generally furnished with one or more A4 porcelain bushings. As many as four A.A.R. porcelain terminals may be installed in the head. Any other bushing or clamp shown on Plates E60 and E65 may be furnished with this bootleg. Type 1155-31 Mechanical Connector for 7 No. 10 AWG, 7 No. 12 AWG, or 7 No. 14½ BWG wires is especially popular in Type 1155 Bootleg assemblies. For tripod base for this bootleg see Plate E60.

Standard height, 17″ overall; riser, 2″ I.D.; head 5″ sq. by 3¼″ deep.

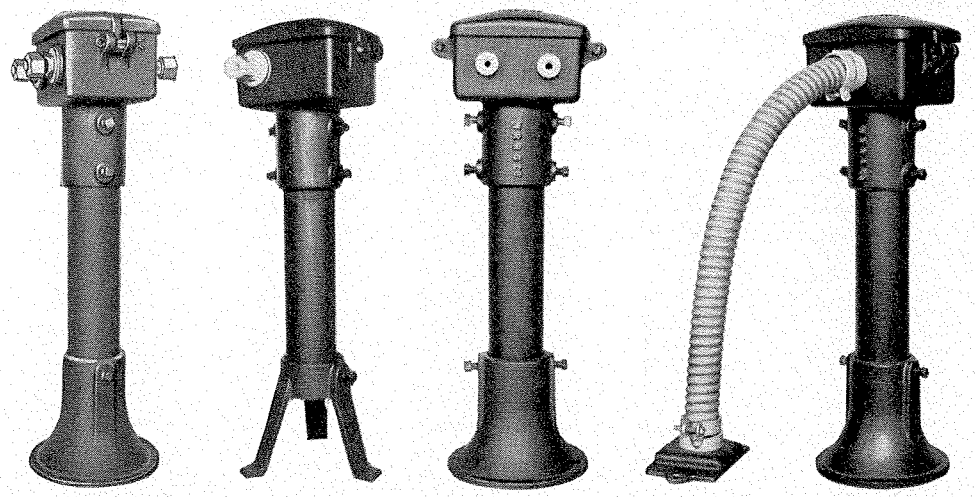
ORDERING REFERENCE
Specify Plate Number E20, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1155 Bootleg with 2 Type 1155-31 Connectors	1155–1
2	Type 1155 Bootleg with 1 porcelain bushing and 1 terminal block	1155–15
3	Type 1155 Bootleg with 1 porcelain bushing and 2 terminal blocks	1155–16
4	Type 1155 Bootleg with 2 porcelain bushings and 1 terminal block	1155–17
5	Type 1155 Bootleg with 2 porcelain bushings and 2 terminal blocks	1155–18
6	Type 1155 Bootleg with 2 porcelain bushings and 3 terminal blocks	1155–19
7	Type 1155 Bootleg with Type 1701 Flexible Connection with Cover Plate for C.R.S. & S. Co. Switch Circuit Controller (1″ conduit)	1155–9 and 1701–11
8	Type 1155 Bootleg with Type 1701 Flexible Connection with Cover Plate for C.R.S. & S. Co. Switch Circuit Controller (1½″ conduit)	1155–10 and 1701–12
9	Type 1155 Bootleg with Type 1702 Flexible Connection with Cover Plate for G.R.S. Model 5 Switch Circuit Controller (1″ conduit)	1155–9 and 1702–11
10	Type 1155 Bootleg with Type 1702 Flexible Connection with Cover Plate for G.R.S. Model 5 Switch Circuit Controller (1½″ conduit)	1155–10 and 1702–12
11	Type 1155 Bootleg with Type 1705 Flexible Connection with Cover Plate for U.S. & S. Co. U-5 Switch Circuit Controller (1″ conduit)	1155–9 and 1705–11
12	Type 1155 Bootleg with Type 1705 Flexible Connection with Cover Plate for U.S. & S. Co. U-5 Switch Circuit Controller (1½″ conduit)	1155–10 and 1705–12
13	Type 1155 Bootleg for use with Flexible Connection (For 1″ conduit)	1155–9
14	Type 1155 Bootleg for use with Flexible Connection (For 1½″ conduit)	1155–10
	Replacement Parts	
16	Head casting only (Specify Reference Number of Bootleg for which casting is desired)	Dwg. 1155–23
17	Cover only	1155–22
18	Riser pipe (2″ I.D. x 9″ unless otherwise specified)	
19	Bell type base	1170–23
20	Type 1155-31 Connector only	1155–31
21	A4 Porcelain Bushing only	1138
22	A.A.R. Porcelain Terminal Block only	1056–10

For Flexible Connections with Cover Plates for Switch Circuit Controllers see Plate E70.

Type 1170 Bootlegs

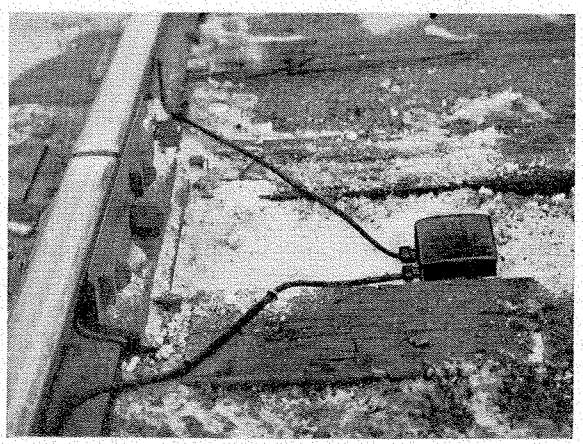
PATENT APPLIED FOR



Type 1170 Bootlegs, typical assemblies of which are shown above, lend themselves to the widest variety of assembly to meet various requirements and specifications. Any type of clamp, bushing, or connector may be installed in the head. The length of the pipe riser may be varied to meet particular height requirements. Although the bell type base is furnished with standard Type 1170 Bootlegs, the tripod base may be furnished if specified. See Plate E60 for ordering reference for tripod base. This type of bootleg is furnished with a twin cable clamp the detail of which is shown on the following page. This clamp is designed to hold two cables in place and relieve all strain from the wire.

Standard height, 19¾"; riser, 2" I.D.; head, 4⅝" by 3⅝" by 2$\frac{13}{16}$" deep.

For Switch Circuit Controller



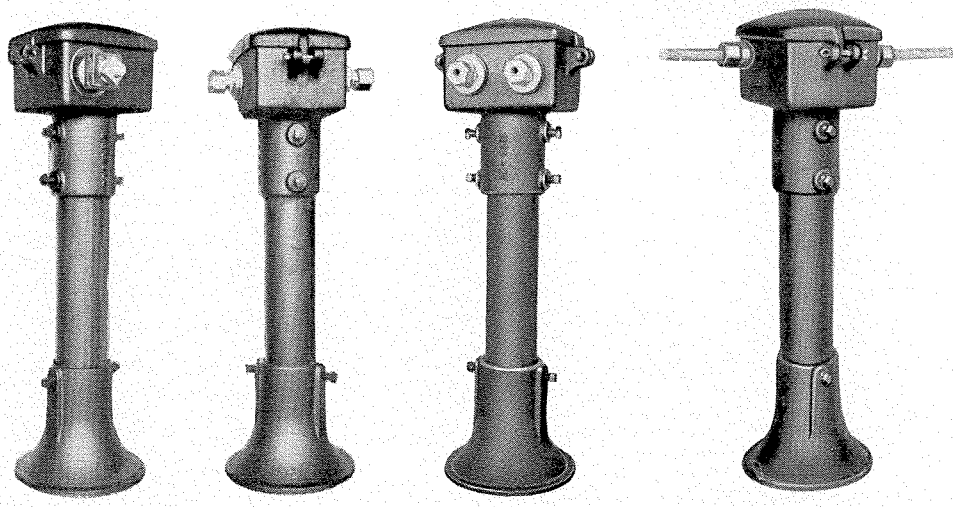
For Track Connection

Typical installations of Type 1170 Bootlegs

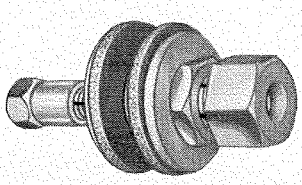
(Continued on following page)

Type 1170 Bootlegs
(Continued)

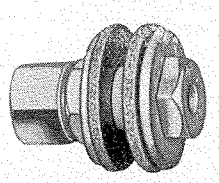
PATENT APPLIED FOR



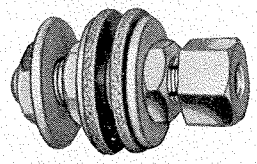
Typical Assemblies of Type 1170 Bootlegs



Type 1170-32 Connector
(Specify size of parkway cable wire and stranded bond)

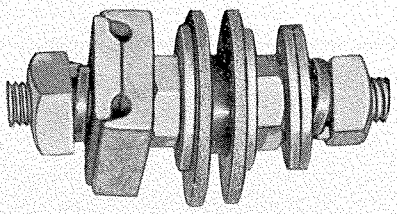


Type 1170-39 Connector



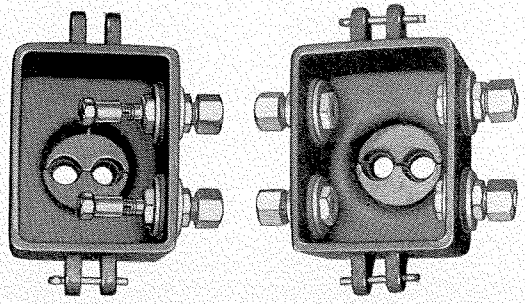
Type 1170-41 Connector

(Specify size of stranded bond)



Type 1155-39 Connector

For 7 No. 10 A. W. G., 7 No. 12 A. W. G., or 7 No. 14½ B. W. G. wires unless otherwise specified



Views of Type 1170 Bootleg Heads with covers removed showing two of many connector arrangements and detail of twin cable clamp designed to relieve all strain from cable wires

(Ordering Reference on following page)

WESTERN RAILROAD SUPPLY COMPANY

Type 1170 Bootlegs
(Continued)

PATENT APPLIED FOR

ORDERING REFERENCE
Specify Plate Number E25, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1170 Bootleg with 1 Type 1170-32 Connector (Specify size of parkway cable wire and stranded bond)	1170–9
2	Type 1170 Bootleg with 1 Type 1170–39 Connector (Specify size of stranded bond)	1170–1
3	Type 1170 Bootleg with 1 Type 1170–41 Connector (Specify size of stranded bond)	1170–3
4	Type 1170 Bootleg with 1 Type 1155-39 Connector	1170–5
5	Type 1170 Bootleg with 2 Type 1170-32 Connectors on one side (Specify size of parkway cable wire and stranded bond)	1170–13
6	Type 1170 Bootleg with 2 Type 1170-39 Connectors on one side (Specify size of stranded bond)	1170–14
7	Type 1170 Bootleg with 2 Type 1170-41 Connectors on one side (Specify size of stranded bond)	1170–50
8	Type 1170 Bootleg with 2 Type 1155-39 Connectors on one side	1170–51
9	Type 1170 Bootleg with 2 Type 1170-32 Connectors, one on each side (Specify size of parkway cable wire and stranded bond)	1170–10
10	Type 1170 Bootleg with 2 Type 1170-39 Connectors, one on each side (Specify size of stranded bond)	1170–2
11	Type 1170 Bootleg with 2 Type 1170-41 Connectors one on each side (Specify size of stranded bond)	1170–4
12	Type 1170 Bootleg with 2 Type 1155-39 Connectors, one on each side.	1170–6
13	Type 1170 Bootleg with 4 Type 1170-39 Connectors (Specify size of stranded bond)	1170–17
14	Type 1170 Bootleg with 4 Type 1170-41 Connectors (Specify size of stranded bond)	1170–52
15	Type 1170 Bootleg with 1 porcelain bushing and 1 A.A.R. Terminal Block	1170–60
16	Type 1170 Bootleg with 2 porcelain bushings and 1 A.A.R. Terminal Block	1170–61
17	Type 1170 Bootleg with 2 porcelain bushings and 2 A.A.R. Terminal Blocks	1170–62
18	Type 1170 Bootleg with Type 1701 Flexible Connection with Cover Plate for C.R.S. & S. Co. Switch Circuit Controller (1″ conduit)	1170–15 and 1701–11
19	Type 1170 Bootleg with Type 1701 Flexible Connection with Cover Plate for C.R.S. & S. Co. Switch Circuit Controller (1½″ conduit).	1170–19 and 1701–12
20	Type 1170 Bootleg with Type 1702 Flexible Connection with Cover Plate for G.R.S. Model 5 Switch Circuit Controller (1″ conduit)	1170–15 and 1702–11
21	Type 1170 Bootleg with Type 1702 Flexible Connection with Cover Plate for G.R.S. Model 5 Switch Circuit Controller (1½″ conduit)	1170–19 and 1702–12
22	Type 1170 Bootleg with Type 1705 Flexible Connection with Cover Plate for U.S. & S. Co. U-5 Switch Circuit Controller (1″ conduit)	1170–15 and 1705–11
23	Type 1170 Bootleg with Type 1705 Flexible Connection with Cover Plate for U.S. & S. Co. U-5 Switch Circuit Controller (1½″ conduit)	1170–19 and 1705–12
24	Type 1170 Bootleg drilled for 1″ flexible connection	1170–15
25	Type 1170 Bootleg drilled for 1½″ flexible connection	1170–19
	Replacement Parts	
26	Cover only	1170–22
27	Head only less cover, terminals, bushings, and connectors (Specify Reference Number of Bootleg for which casting is desired)	Dwg. 1170–21
28	Pipe riser only (2″ I.D. x 10⅝″ unless otherwise specified)	1170–42
29	Bell Type Base only	1170–23
30	Clamp Block only	1170–24

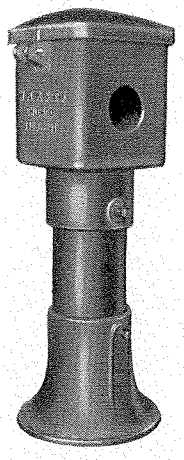
For mechanical connectors only see Plate E65.

For bushings and terminal blocks only see Plate E60.

For Flexible Connections with Cover Plates for Switch Circuit Controllers see Plate E70.

For Tripod Base for this Bootleg see Plate E60.

Type 1103 Bootleg



This Bootleg, designed especially for high voltage use, incorporates such features as a water-tight cover and insulated terminal connections.

For standard low voltage signal use it is a popular bootleg in that large multiple conductor cables or several small multiple conductor cables may be easily accommodated. Squeeze connectors for flexible metallic conduit up to 3″ in diameter can be furnished. When furnished for use with squeeze connectors, a four-unit bakelite terminal strip (8 binding posts) is furnished.

Standard height: 24″; Riser: 3″ I.D.; Head: 4⅞″ sq. by 5 9/16″ deep.

ORDERING REFERENCE

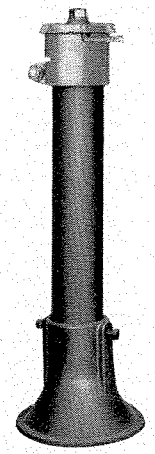
Specify Plate Number E30, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1103 Bootleg, for high voltage use, complete with 1 A.A.R. porcelain terminal block with insulated binding posts, and two ½″ squeeze connectors	1103–1
2	Type 1103 Bootleg, for standard signal use, complete with 8 binding posts and drilled for 1½″ squeeze connector unless otherwise specified	1103–2
	Replacement Parts	
3	Cover only	1155–22
4	Head casting only (Specify Reference Number of Bootleg for which casting is desired)	Dwg. 1103–11
5	Riser pipe (3″ I.D. x 12½″ unless otherwise specified)	
6	Bell type base	1103–12
7	Multiple Terminal Strip (8 binding posts)	2506–14
8	Shelf for mounting terminal strip	1103–13

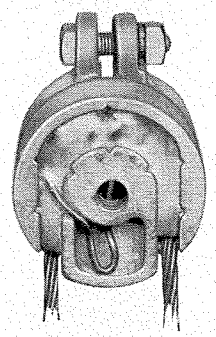
For Flexible Connections with Cover Plates for Switch Circuit Controllers see Plate E70.

Type 1167 and 1169 Bootlegs

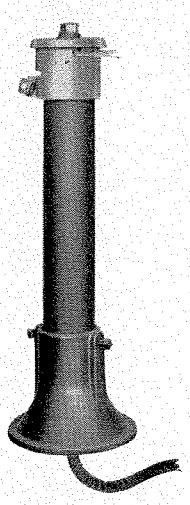
PATENT APPLIED FOR



Bootleg complete showing bond wire attached



Bootleg head with cover removed showing soldered connection



Bootleg complete showing that soldered connection can be made before installation

These bootlegs are designed to provide a direct soldered connection between bonds and parkway cable. The bootleg is so designed that the soldered connection can be made between the bond wire and the parkway cable before the bootleg is installed. Due to this design the soldering work can be done in work cars or shanties thereby greatly reducing cost and time of installation.

Type 1167 and 1169 Bootlegs are for use with bonds composed of 7 No. 12 AWG wires. Type 1167 is furnished with 1½" I.D. pipe riser; Type 1169 Bootleg is furnished with 2" I.D. pipe riser. Standard height: 19¼".

ORDERING REFERENCE

Specify Plate Number E35, Reference Number, and Description

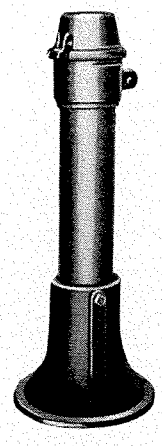
Ref. No.	Description	Piece No.
1	Type 1167 Bootleg complete	1167–1
2	Type 1169 Bootleg complete	1169–1
	Replacement Parts	
3	Pipe cap for Type 1167	1167–11
4	Pipe cap for Type 1169	1169–6
5	Cover for Type 1167	1167–12
6	Cover for Type 1169	1169–5
7	Hex head cap screw for cover	
8	Insulating cap for Type 1167	1167–13
9	Insulating cap for Type 1169	1184–6
10	Bell type base for Type 1167	1167–14
11	Bell type base for Type 1169	1170–23A
12	Riser pipe for Type 1167 (1½" I.D. by 14" long)	
13	Riser pipe for Type 1169 (2" I.D. by 14" long)	

For tripod base for Type 1169 Bootleg see Plate E60

WESTERN RAILROAD SUPPLY COMPANY

Type 1184 Bootleg

PATENT APPLIED FOR



Type 1184 Bootleg was especially designed for use with stranded duplex plug type or two single stranded plug type rail connectors. The connection between parkway cable wire and rail connector is of the clamp type covered by a cap, if desired, to protect against salt brine and the elements. The top is insulated from the riser by a hard fibre sleeve and washer plate. Connections may be soldered or mechanically clamped.

Standard height 20⅜″; riser, 2″ I.D. by 14″ pipe.

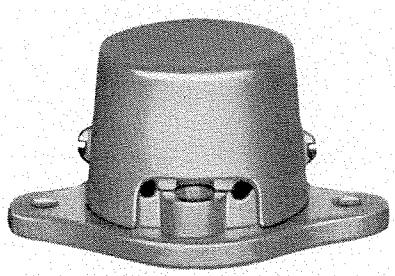
ORDERING REFERENCE

Specify Plate Number E40, Reference Number, and Description

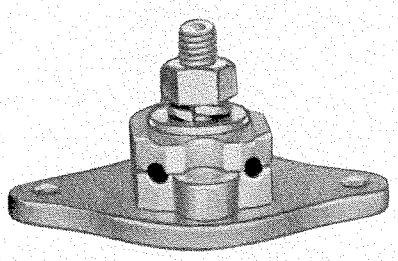
Ref. No.	Description	Piece No.
1	Type 1184 Bootleg with cover slotted on both sides	1184–2
2	Type 1184 Bootleg with cover slotted on one side	1184–4
3	Type 1184 Bootleg without cover	1184–12
3a	Type 1184 Bootleg with special bronze bolt and nut, without cover	1184–12A
	Replacement Parts	
4	Cover only, with slots on both sides	1184–9
5	Cover only, with slots on one side	1184–10
6	Bronze Wire Clamp only	1184–8
7	Cap only	1184–7
8	Insulating cap only	1184–6
9	Pipe riser (2″ I.D. x 14″ unless otherwise specified)	
10	Bell type base only	1170–23

For tripod base for this bootleg see Plate E60.

Type 1162 Parkway Terminal



With Cover



Without Cover

Type 1162 Parkway Terminal is furnished for application to pump log bootlegs or trunking. It is furnished with a clamp for No. 6 B&S gauge solid track wire, but clamps for other sizes of wires can be furnished if specified. The Terminal is so designed that it provides a brass to brass connection. It can be furnished with or without cover. All parts are cadmium plated.

The holes for mounting are spaced 3⅛" c. c.

Two No. 14 x 2" iron wood screws, cadmium plated, are furnished with each unit.

ORDERING REFERENCE

Specify Plate Number E45, Reference Number, and Description

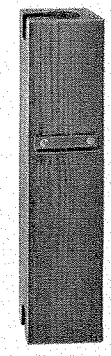
Ref. No.	Description	Piece No.
1	Type 1162 Parkway Terminal with cover	1162–1
2	Type 1162 Parkway Terminal less cover	1162–2
	Replacement Parts	
3	Cover only	1162–13
4	Clamp only	1162–12

WESTERN RAILROAD SUPPLY COMPANY

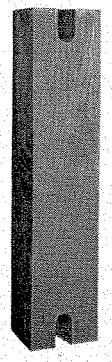
Pump Log Bootlegs

Types 1139, 1159, 1106

Type 1139



Type 1159



Type 1106

Types 1106 and 1159 Bootlegs are furnished as illustrated. Type 1106 Bootleg is 3⅞″ square by 18″ high. The hole diameter varies from 1⅞″ to 2″; the side slots are 1″ wide. Type 1159 is the same as 1106 with an angle plate added to prevent the bootleg from creeping.

Type 1139 Bootleg is a pump log bootleg with a clamp for either mechanical or soldered connection. The riser is 4″ square by 19½″ high with a 1⅞″ to 2″ inside diameter. Furnished with or without cover.

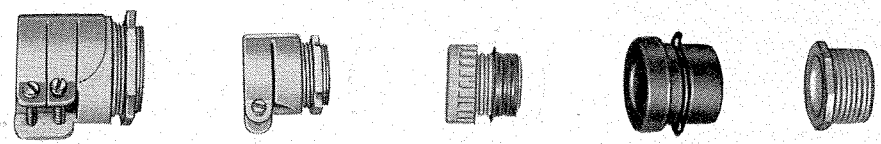
All pump log bootlegs are creosote impregnated to saturation.

ORDERING REFERENCE

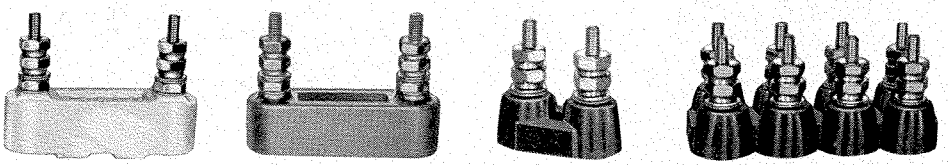
Specify Plate Number E50, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1106 Pump Log Bootleg	1106
2	Type 1159 Anticreep Pump Log Bootleg	1159
3	Type 1139 Bootleg complete, with cover	1139–24
4	Type 1139 Bootleg complete, less cover	1139–23
5	Type 1139 Bootleg Head only, with cover	1139–22
6	Type 1139 Bootleg Head only, less cover	1139–21

Bootleg Parts



Any of the above squeeze connectors, bushings, and nipples can be furnished in various sizes. The porcelain bushing is the Standard A4 unless otherwise specified. Chase nipples are generally furnished in the ¾" size, but other sizes are available. The fibre bushing is ⅞" long with an inside diameter of ½" and an outside diameter of 1" on the larger end and ⅞" on the smaller end. The spring shown is necessary for installing the fibre bushing.

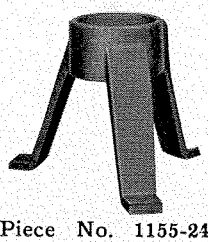


The porcelain A.A.R. Terminal Block is generally furnished in bootleg assemblies when terminal posts are desired. This type Terminal Block can also be furnished in moulded bakelite. Type 2506 Terminal Strip is available in a two-post unit and eight-post unit.

ORDERING REFERENCE

Specify Plate Number E60, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Squeeze connector (Specify size of conduit)	
2	A4 Porcelain bushing	1138
3	Fibre bushing only (Spring not furnished unless specified)	1165–12
4	Retaining spring for fibre bushing	531
5	Chase nipple (¾" unless otherwise specified)	
6	A.A.R. Porcelain Terminal Block	1056–10
7	A.A.R. Bakelite Terminal Block	1056–210
8	Type 2506 Two-Post Terminal Unit	2506–11
9	Type 2506 Eight-Post Terminal Unit	2506–14



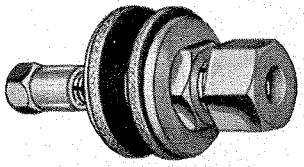
Piece No. 1155-24 Base

Tripod Base

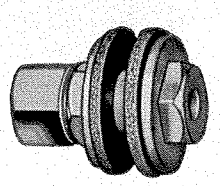
In some classes of ballast the tripod base, shown at left, is preferred. We are in position to furnish this type base on all bootlegs where a 2" I.D. pipe is used for the bootleg riser, when so specified.

WESTERN RAILROAD SUPPLY COMPANY

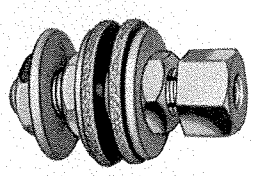
Mechanical Connectors for Bootlegs



Type 1170-32 Connector

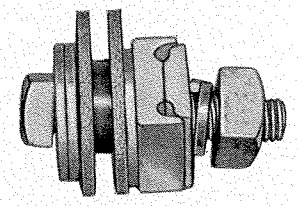


Type 1170-39 Connector



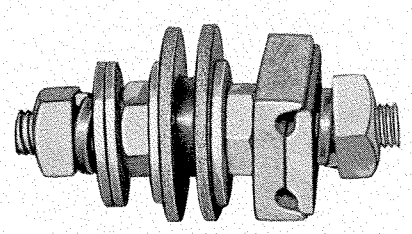
Type 1170-41 Connector

These connectors are made of brass bolts or studs, with brass clamp and lock nuts, galvanized iron washers, and high grade bakelized canvas insulation. Other types of connectors can be furnished to meet specifications. (Specify size of parkway cable wire and stranded bond.)



Types 1155-30, 1155-31, 1155-49 and 1155-46 Connectors

These connectors consist of a galvanized iron ½"x2½" lg. bolt, washers, nut, bronze clamps for 7 No. 10 AWG, 7 No. 12 AWG, or 7 14½ BWG wires, and necessary bakelized canvas insulation. Type 1155-30 has an insulating bushing 9/16" I.D. x 1" O. D. x1⅛" long; Type 1155-31 has an insulating bushing 9/16" I.D. x 1" O.D. x ⅜" long; Type 1155-46 has an insulating bushing 9/16" I.D. x 1 5/16" O.D. x ¼" long. These connectors can be furnished with any other size insulating bushings to meet particular requirements. Type 1155-49 is similar to Type 1155-31 except the wire clamp is for No. 6 B&S ga. solid wires.



Types 1155-39 and 1155-41

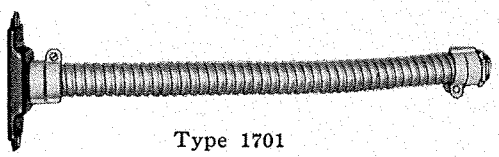
These connectors consist of a ½" threaded iron rod 4" long, with steel washers, steel hex nuts for clamping to the wall of the bootleg, square nuts for terminating the wires, complete with bronze wire clamps, and necessary bakelized canvas insulation. All steel and iron parts are hot galvanized. The insulating bushing is 9/16" I.D. x 1" O.D. x ⅜" long, but these connectors can be furnished with any size insulation to meet particular requirements. Type 1155-39 is for 7 No. 10 AWG, 7 No. 12 AWG, or 7 No. 14½ BWG wires; Type 1155-41 is for No. 6 B&S ga. solid wire.

ORDERING REFERENCE

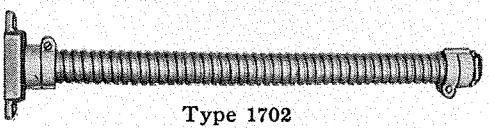
Specify Plate Number E65, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1170-32 Connector (Specify size of parkway cable wire and stranded bond)	1170–32
2	Type 1170-39 Connector (Specify size of stranded bond)	1170–39
3	Type 1170-41 Connector (Specify size of stranded bond)	1170–41
4	Type 1155-30 Connector	1155–30
5	Type 1155-31 Connector	1155–31
6	Type 1155-49 Connector	1155–49
7	Type 1155-46 Connector	1155–46
8	Type 1155-39 Connector	1155–39
9	Type 1155-41 Connector	1155–41

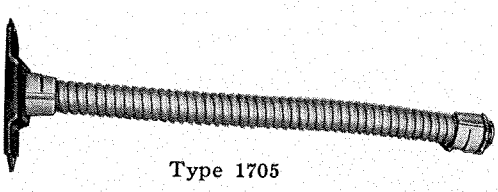
Flexible Connections with Cover Plates for Switch Circuit Controllers



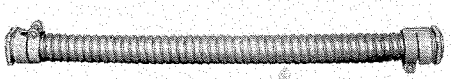
Type 1701



Type 1702



Type 1705



Type 1703 Flexible Connection Without Cover Plate

Flexible Connections with Cover Plates are provided for protection of flexible insulated wires between bootlegs and several types of switch circuit controllers. They are available with either 1″ or 1½″ conduit, (length of conduit is 18″).

Type 1701 is designed for the C. R. S. & S. Co. Switch Circuit Controller; Type 1702 for G.R.S. Model 5 Controller; and Type 1705 for the U. S. & S. Co. U-5 Controller.

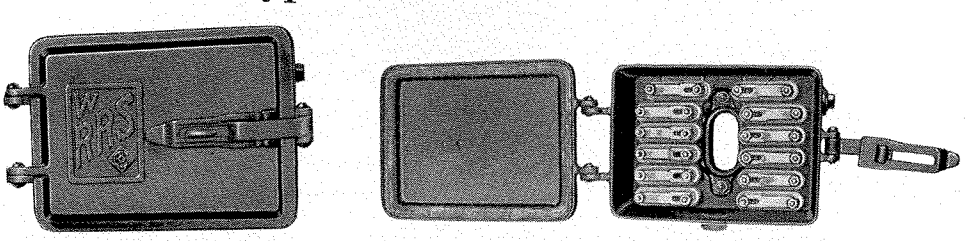
ORDERING REFERENCE

Specify Plate Number E70, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1701 Flexible Connection with Cover Plate for C.R.S. & S. Co. Switch Circuit Controller with 1″ conduit	1701–11
2	Type 1701 Flexible Connection with Cover Plate for C.R.S. & S. Co. Switch Circuit Controller with 1½″ conduit	1701–12
3	Type 1702 Flexible Connection with Cover Plate for G.R.S. Model 5 Switch Circuit Controller with 1″ conduit	1702–11
4	Type 1702 Flexible Connection with Cover Plate for G.R.S. Model 5 Switch Circuit Controller with 1½″ conduit	1702–12
5	Type 1705 Flexible Connection with Cover Plate for U.S. & S. Co. U-5 Switch Circuit Controller with 1″ conduit	1705–11
6	Type 1705 Flexible Connection with Cover Plate for U.S. & S. Co. U-5 Switch Circuit Controller with 1½″ conduit	1705–12
7	Type 1703 Flexible Connection only, 1″ conduit with 2 straight connectors	1703–0
8	Type 1703 Flexible Connection only, 1½″ conduit with 2 straight connectors	1703–2
9	Cover Plate only for C.R.S. & S. Co. Switch Circuit Controller and for 1″ conduit	1701–1
10	Cover Plate only for C.R.S. & S. Co. Switch Circuit Controller and for 1½″ conduit	1701–1A
11	Cover Plate only for G.R.S. Model 5 Switch Circuit Controller and for 1″ conduit	1702–1
12	Cover Plate only for G.R.S. Model 5 Switch Circuit Controller and for 1½″ conduit	1702–1A
13	Cover Plate only for U. S. & S. Co. U-5 Switch Circuit Controller and for 1″ conduit	1705–1
14	Cover Plate only for U. S. & S. Co. U-5 Switch Circuit Controller and for 1½″ conduit	1705–1A

WESTERN RAILROAD SUPPLY COMPANY

Type 1265 Terminal Box



Type 1265 Terminal Box is provided for mounting on 4″ or 5″ I.D. pipe as specified. It contains 12 or less A.A.R. porcelain terminal blocks for the connection of parkway cables and the wires that run to flashing light signal units, bells, or other apparatus mounted on the pole.

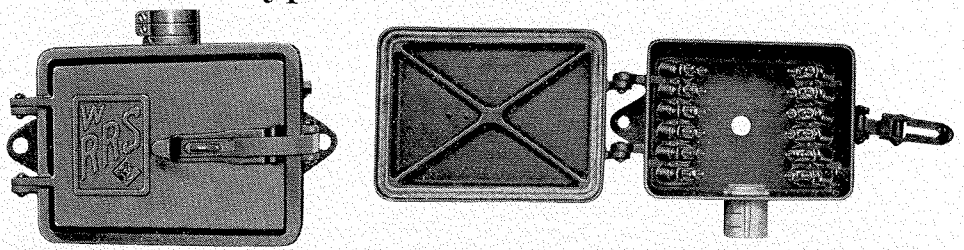
Dimensions: 9⅜″ by 6¾″ by 3⅝″ deep (inside measurements).

Furnished with 12 terminal blocks unless otherwise specified.

ORDERING REFERENCE
Specify Plate Number E100, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1265 Terminal Box for mounting on 4″ I.D. pipe post	Dwg. 1265
2	Type 1265 Terminal Box for mounting on 5″ I.D. pipe post	Dwg. 1265
	Replacement Parts	
3	Cover complete with packing and staple	1265–5
4	Hasp assembly	1003–54
5	A.A.R. Porcelain Terminal Block	10565

Type 1266 Terminal Box



Type 1266 Terminal Box is for mounting on a flat surface. It contains a bakelite terminal strip in each end (each strip contains twelve binding posts). Two ⅝″ mounting holes, spaced 12″ c.c., are provided for mounting. The construction of this box allows ample room for fanning out cable wires. The box can be furnished with various size holes in the bottom to permit entrance of the cable; similarly any size squeeze connector can be furnished.

This Box can be furnished complete with flexible connections with cover plate for switch circuit controllers. See Plate E70.

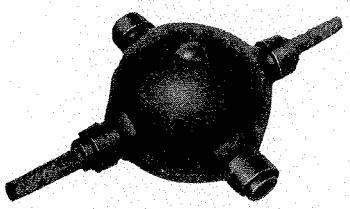
Dimensions: 9⅜″ by 6¾″ by 3⅝″ deep (inside measurements).

Mounting screws or bolts are not furnished unless specified.

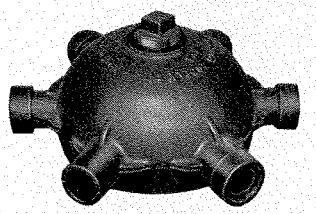
ORDERING REFERENCE
Specify Plate Number E100, Reference Number, and Description

Ref. No.	Description	Piece No.
10	Type 1266 Terminal Box (Specify size of hole in bottom and size of squeeze connector)	1266
	Replacement Parts	
11	Cover complete with packing and staple	1265–5
12	Hasp assembly	1003–54
13	Six-Unit (twelve posts) Bakelite Terminal Strip	2506–16

Junction Boxes



Type 1065



Type 1065-6

Type 1065 and Type 1065-6 Junction Boxes are similar except that Type 1065-6 has outlets for six cable entrances, whereas Type 1065 has only four. Both are designed to be furnished with as many as four A.A.R. Porcelain Terminal Blocks. The long necks of the openings protect the cable and relieve strain from the electrical connections. Lead bushings to increase the outside diameter of the cable may be made from the sheath removed from the cable being spliced or connected in the box. The maximum outside diameter of the cable is 1″ except that one opening on the Type 1065-6 accommodates cables of 1¼″ maximum outside diameter.

The spherical shape of the box allows the sealing compound to fill the interior without leaving air pockets and also wards off blows from picks or track tools.

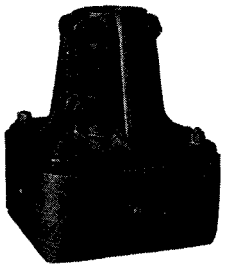
These boxes may be buried in the ballast permanently when filled with sealing compound. (For sealing compound see Plate E220.)

ORDERING REFERENCE

Specify Plate Number E105, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1065 Four Way Junction Box complete less terminal blocks	1065
2	Type 1065 Four Way Junction Box with 1 terminal block	1065–1
3	Type 1065 Four Way Junction Box with 2 terminal blocks	1065–2
4	Type 1065 Four Way Junction Box with 3 terminal blocks	1065–3
5	Type 1065 Four Way Junction Box with 4 terminal blocks	1065–4
6	Type 1065-6 Six Way Junction Box complete less terminal blocks	1065–6
7	Type 1065-6 Six Way Junction Box with 1 terminal block	1065–61
8	Type 1065-6 Six Way Junction Box with 2 terminal blocks	1065–62
9	Type 1065-6 Six Way Junction Box with 3 terminal blocks	1065–63
10	Type 1065-6 Six Way Junction Box with 4 terminal blocks	1065–64
	Replacement Parts	
11	Plug for cover for Type 1065 Junction Box	1061
12	Plug for cover for Type 1065-6 Junction Box	
13	A.A.R. Porcelain Terminal Block	10563
14	Clamp ring for outlet neck	1062
15	Base for Type 1065 Junction Box (Not drilled for terminal blocks)	1063
16	Base for Type 1065-6 Junction Box (Not drilled for terminal blocks)	663
17	Cover for Type 1065 Junction Box	1064
18	Cover for Type 1065-6 Junction Box	664

Sub-base Junction Box



These sub-base junction boxes are designed to be placed under the regular foundation base on top of the concrete foundation. They provide a terminal box for terminating wires and cables as well as an opening at the base of the pole to clean out rust accumulation.

A. A. R. porcelain terminal blocks can be provided. Various bolt spacings other than those listed can be provided for.

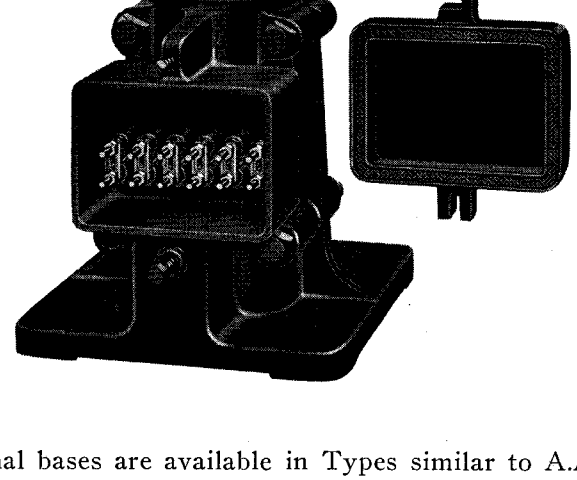
Each sub-base has four openings, one on each side, which are sufficiently large to permit access to the terminals. These openings may be fitted with trunking outlets, parkway cable outlets, or hand hole covers as desired.

ORDERING REFERENCE

Specify Plate Number E110, Reference Number, and Description

Ref. No.	Description	Dwg. No.
1	Sub-base Junction Box, 6″x8″ bolt spacing complete (terminal blocks, hand hole covers, and outlets as specified)	220
2	Round sub-base junction box, 11 11/16″x11 11/16″ (A.A.R.) bolt spacing, complete (terminal blocks, hand hole covers and outlets as specified)	230
3	Square sub-base junction box, 12″x12″ (A.A.R.) bolt spacing, complete (terminal blocks, hand hole covers and outlets as specified)	240
4	Square sub-base junction box, 14″x14″ bolt spacing, complete (terminal blocks, hand hole covers and outlets as specified)	250
5	Square sub-base junction box, 9½″x9½″ or 8″x8″ bolt spacing, complete (terminal blocks, hand hole covers and outlets as specified)	260
	Replacement Parts	
6	Junction box only (less covers and outlets) for 6″x8″ bolt spacing	221
7	Trunking outlet only for Ref. 1 Junction Box	223
8	Hand hole cover only for Ref. 1 Junction Box	227
9	Parkway cable outlet only for Ref. 1 Junction Box (Specify O.D. of cable)	228
10	Round junction box only 11 11/16″x11 11/16″ bolt spacing (less covers and outlets)	231
11	Trunking Outlet only for Ref. 2 Junction Box	233
12	Hand hole cover only for Ref. 2 Junction Box	237
13	Parkway Cable outlet only for Ref. 2 Junction Box (Specify O.D. of cable)	238
14	Square junction box only (less covers and outlets) for 12″x12″ bolt spacing	241
15	Trunking Outlet only for Ref. 3 Junction Box	243
16	Hand Hole cover only for Ref. 3 Junction Box	247
17	Parkway Cable Outlet for Ref. 3 Junction Box (Specify O.D. of cable)	248
18	Square junction box only (less covers and outlets) for 14″x14″ bolt spacing	251
19	Trunking outlet only for Ref. 4 Junction Box	253
20	Hand Hole cover only for Ref. 4 Junction Box	257
21	Parkway Cable Outlet only for Ref. 4 Junction Box (Specify O.D. of cable)	258
22	Square junction box only (less covers and outlets) for 9½″x9½″ or 8″x8″ bolt spacing	261
23	Trunking outlet only for Ref. 5 Junction Box	223
24	Hand hole cover only for Ref. 5 Junction Box	227
25	Parkway Cable Outlet only for Ref. 5 Junction Box	269

Signal Base with Cast-In Junction Box



These signal bases are available in Types similar to A.A.R. Type 1449 and W.R.R.S.Co. Types 2143 and 2145 (See Plate E190) except that one or both halves may be furnished with a cast-in junction box capable of holding a bakelite terminal strip of 6 units (12 binding posts). The base may be furnished complete or the half with the junction box may be obtained separately for use with signal assemblies already installed.

Type 2146 is for 4″ I. D. pipe with a bolt spacing of 9½″ x 9½″ c. c.

Type 2147 is for 4″ I. D. pipe with a bolt spacing of $11\frac{9}{16}$″ to 12″ c. c.

Type 2148 is for 5″ I. D. pipe with a bolt spacing of $11\frac{9}{16}$″ to 12″ c. c.

ORDERING REFERENCE

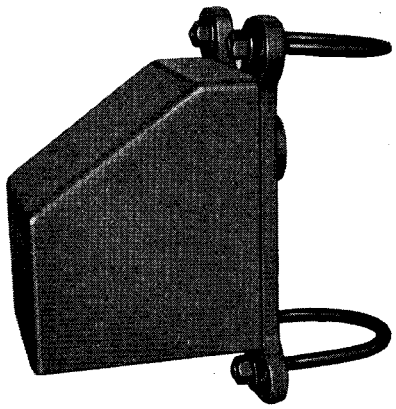
Specify Plate Number E115, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 2146 Signal Base with Cast-In Junction Box on one half	2146–11
2	Type 2146 Signal Base with Cast-In Junction Box on both halves	2146–12
3	Type 2146 Split Base Half with Cast-In Junction Box	2146–1
4	Type 2147 Signal Base with Cast-In Junction Box on one half	2147–11
5	Type 2147 Signal Base with Cast-In Junction Box on both halves	2147–12
6	Type 2147 Split Base Half with Cast-In Junction Box	2147–1
7	Type 2148 Signal Base with Cast-In Junction Box on one half	2148–11
8	Type 2148 Signal Base with Cast-In Junction Box on both halves	2148–12
9	Type 2148 Split Base Half with Cast-In Junction Box	2148–1

For anchor bolts and other signal bases see Plate E190

WESTERN RAILROAD SUPPLY COMPANY

Type 1264 Terminal Box



Type 1264 Terminal or Junction Box was especially designed for use where construction is such that parkway cable can not be brought up through the foundation of the signal mast. This Terminal Box can be mounted on the pipe mast and the parkway cable enters through the bottom of the box.

Type 1264 Terminal Box is furnished with either six cable entrance holes (2 holes $1\frac{5}{16}$"; 4 holes $1\frac{1}{8}$") or with one 2" cable entrance hole. A $2\frac{3}{8}$" diameter extension of the casting of the box is provided for a $1\frac{1}{4}$" I.D. entrance to the pipe mast. The Terminal Box with the six entrance holes is not furnished with terminals unless specified. The Terminal Box with the single entrance hole is furnished with Type 2506 six unit bakelite terminal strip (12 binding posts.)

Type 1264 Terminal Boxes can be furnished with other combinations of entrance holes and terminals if specified on order.

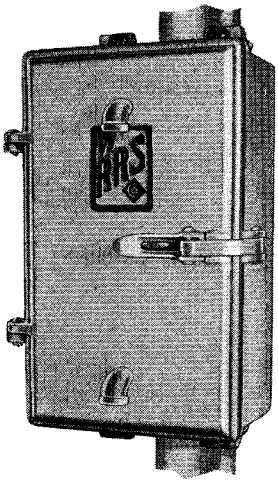
Furnished with U-bolts and nuts and washers for mounting on 4" I.D. pipe mast unless otherwise specified.

ORDERING REFERENCE

Specify Plate Number E120, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1264 Terminal Box with six extrance holes	1264
2	Type 1264 Terminal Box with single entrance hole and Type 2506 Six-Unit Bakelite Terminal Strip	1264–10
	Replacement Parts	
10	Box casting only with six entrance holes	1264–1
11	Box casting only with single entrance hole	1264–1A
12	Cover only	1264–2
13	Six-Unit Bakelite Terminal Strip	2506–16
14	U-bolt complete with nuts and washers for 4" I.D. pipe post	1264–4

Type 1246 Junction Box



Type 1246 Cast Iron Junction Box is designed for use with flashing light highway crossing signals especially where a box capable of holding a large number of terminals or other apparatus is needed. When mounted on the pole, parkway cable may be run into a 2″ squeeze connector at the bottom of the box. As many as 30 A. A. R. porcelain terminal blocks or 5 six-way bakelite terminal strips may be installed on a terminal board within the box. A 2″ pipe nipple with bushing and lock nut is furnished in the back, to admit wires from the box into the pole.

Inside dimensions being 10″ wide by 17½″ high by 6½″ deep, the unit is desirable for installations where lightning arresters or resistance units are used.

A special Type 1246 Junction Box in which there is a slot 9¼″ by 1¾″ at the bottom for cable entrance is also available. This special box is provided with a terminal board and another board at the base of the slot for clamping the parkway cable. Compartment for sealing compound is also provided in this style of box.

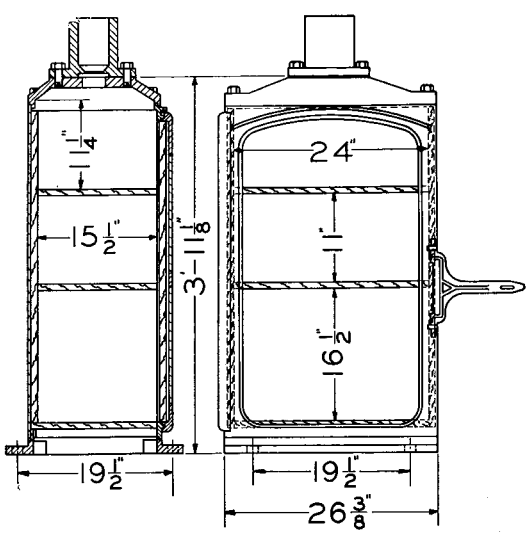
Furnished for mounting on 4″ I. D. pipe unless otherwise specified.

ORDERING REFERENCE

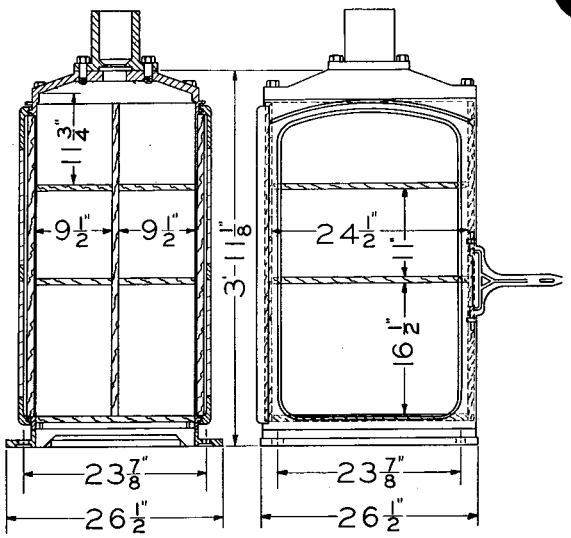
Specify Plate Number E125, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1246 Junction Box with 30 A.A.R. Terminal Blocks, or less as specified	1246–13
2	Type 1246 Junction Box with 5 six-way bakelite terminal strips or less as specified	1246–14
3	Type 1246 Junction Box only without connector, terminals, or mounting bolts	1246–7
4	Type 1246 Junction Box with cable outlet slot in bottom	1246–21

Base of Mast Cases



Type 1023. Single Door



Type 1075. Double Door

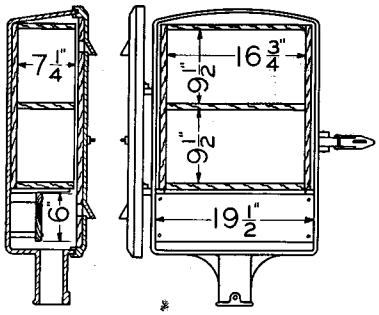
The Type 1075 case is slightly larger than the Type 1023 case and while the shelves are not twice as deep the case will house almost twice the number of pieces of apparatus as the Type 1023. Especially desirable where Batteries, Rectifiers, Control Relays, Track Relays, Flashers and other auxiliary apparatus are located at a crossing protection installation.

Cases will be furnished with lining and shelving arrangements as shown unless otherwise specified.

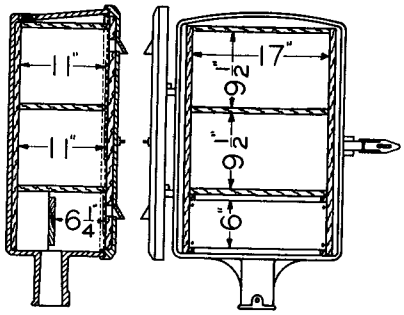
ORDERING REFERENCE
Specify Plate Number E150, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1023 Single door base of mast relay and battery case with socket for 4″ I.D. pipe post	
2	Type 1023 Single door base of mast relay and battery case with socket for 5″ I.D. pipe post	Dwg. 1023
3	Type 1023 Single door base of mast relay and battery case with cover plate instead of socket	
4	Type 1075 Double door base of mast relay and battery case with socket for 4″ I.D. pipe post	
5	Type 1075 Double door base of mast relay and battery case with socket for 5″ I.D. pipe post	Dwg. 1075
6	Type 1075 Double door base of mast relay and battery case with cover plate instead of socket	
	Replacement Parts	
7	Door complete	1075–8
8	Hasp	1033
9	Socket only, for 4″ I.D. pipe post	1030–1
10	Socket only, for 5″ I.D. pipe post	1030–2
11	Cover plate only	1078
12	Anchor bolt complete with nut and washer (1″x30″)	

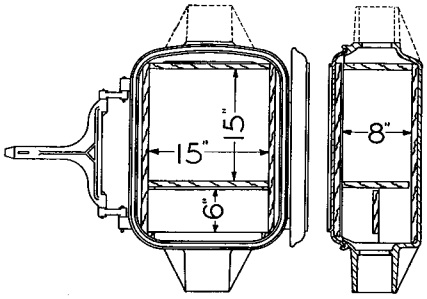
Relay Boxes



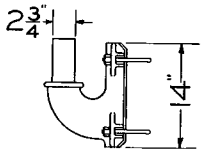
Type 580



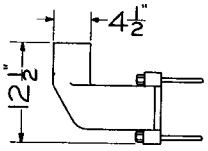
Type 1180



Type 1704



Type 161



Type 873

Types 580 and 1180 are furnished only with 2¾" I.D. bottom sockets for use on Type 161 gooseneck bracket. Type 1704 is furnished with other socket arrangements as listed in ordering reference below. Types 161 and 873 gooseneck brackets can be mounted on 3" to 6" I.D. pipe but will be furnished with U-bolts for mounting on 4" I.D. pipe unless otherwise specified.

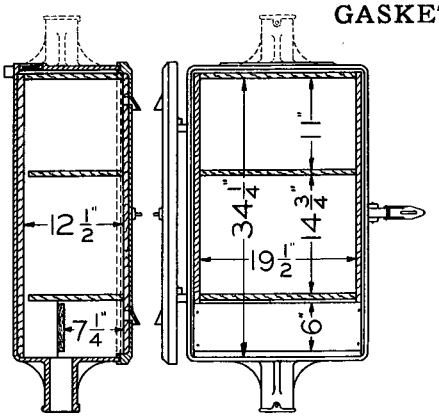
Lining and shelving arrangements will be furnished as shown above unless otherwise specified.

ORDERING REFERENCE
Specify Plate Number E155, Reference Number, and Description

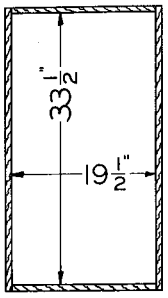
Ref. No.	Description	Piece No.
1	Type 580 Relay Box, four way, cast iron, wood-lined, with terminal board, and socket for Type 161 Gooseneck Bracket (as illustrated)	580–C
2	Type 580 Relay Box, four way, cast iron, wood-lined, with terminal board, and socket for Type 161 Gooseneck Bracket but with bushing for wire outlet in back of box	580–CB
3	Type 1180 Relay Box, four way, cast iron, wood-lined, with terminal board, and socket for Type 161 Gooseneck Bracket (as illustrated)	1180
4	Type 1180 Relay Box, four way, cast iron, wood-lined, with terminal board, and socket for Type 161 Gooseneck Bracket but with bushing for wire outlet in back of box	1180–CB
5	Type 1704 Relay Box, two way, cast iron, wood-lined, with terminal board, and socket for Type 161 Gooseneck Bracket	1704
6	Type 1704 Relay Box, two way, cast iron, wood-lined, with terminal board, and socket for 4" I.D. pipe post or for Type 873 Gooseneck Bracket	1704–A
7	Type 1704 Relay Box, two way, cast iron, wood-lined, with terminal board, and socket at top and bottom for 4" I.D. pipe post	1704–B
8	Type 161 Gooseneck Bracket with U-bolts and nuts	161–14
9	Type 873 Gooseneck Bracket with U bolts and nuts	873–29

Type 1190 Relay Box

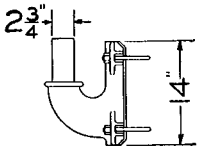
CAST IRON—WOODLINED GASKETED DOORS



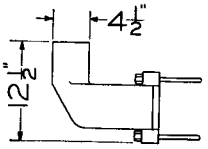
Type 1190 Relay Case with Style "A" Lining



Style "B" Lining



Type 161



Type 873

Type 1190 Relay Case is an extra large case and can be furnished with either of the lining and shelving arrangements shown above or any other arrangements as specified. This relay case can be mounted on either Type 161 gooseneck bracket or 4" I.D. pipe post (or Type 873 gooseneck bracket) as specified. It also may be furnished with sockets for 4" I.D. pipe on both top and bottom of the case. It is furnished with tapped holes on top for cable entrances. These holes are plugged with pipe plugs for shipment. A 2" chase nipple may be provided in the back of the box for wire outlet.

Lining and shelving arrangements will be furnished as shown unless otherwise specified.

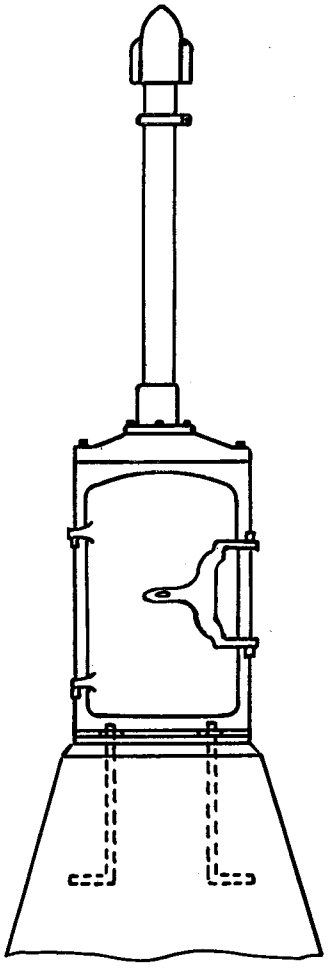
Gooseneck brackets are furnished for mounting on 4" I.D. pipe unless otherwise specified.

ORDERING REFERENCE

Specify Plate Number E160, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1190 Relay Box with Style "A" Lining and with socket for mounting on Type 161 Gooseneck Bracket	1190–A
2	Type 1190 Relay Box with Style "A" Lining and with socket for mounting on Type 161 Gooseneck Bracket and with bushing for wire outlet in back of box	1190–AB
3	Type 1190 Relay Box with Style "B" Lining and with socket for mounting on Type 161 Gooseneck Bracket	1190–B
4	Type 1190 Relay Box with Style "B" Lining and with socket for mounting on Type 161 Gooseneck Bracket and with bushing for wire outlet in back of box	1190–BB
5	Type 1190 Relay Box with Style "A" Lining and with socket for mounting on 4" I.D. pipe or Type 873 Gooseneck Bracket	1190–A–4
6	Type 1190 Relay Box with Style "B" Lining and with socket for mounting on 4" I.D. pipe or Type 873 Gooseneck Bracket	1190–B–4
7	Type 1190 Relay Box with Style "A" Lining and with sockets on top and bottom for 4" I.D. pipe	1190–A–44
8	Type 1190 Relay Box with Style "B" Lining and with sockets on top and bottom for 4" I.D. pipe	1190–B–44
9	Type 161 Gooseneck Bracket with U-bolts and nuts	161–14
10	Type 873 Gooseneck Bracket with U-bolts and nuts	873–29

Relay Case and Cable Post Assemblies



This assembly consists of either Type 1075 or Type 1023 Relay Case, 4" I.D. by 4' pipe post, Type 874-24 Cable Hood, and Type 20 Messenger clamp. Anchor bolts complete with nuts and washers can be furnished if specified.

The assembly shown above may be varied to meet particular requirements.

Relay cases are shown on Plate E150.

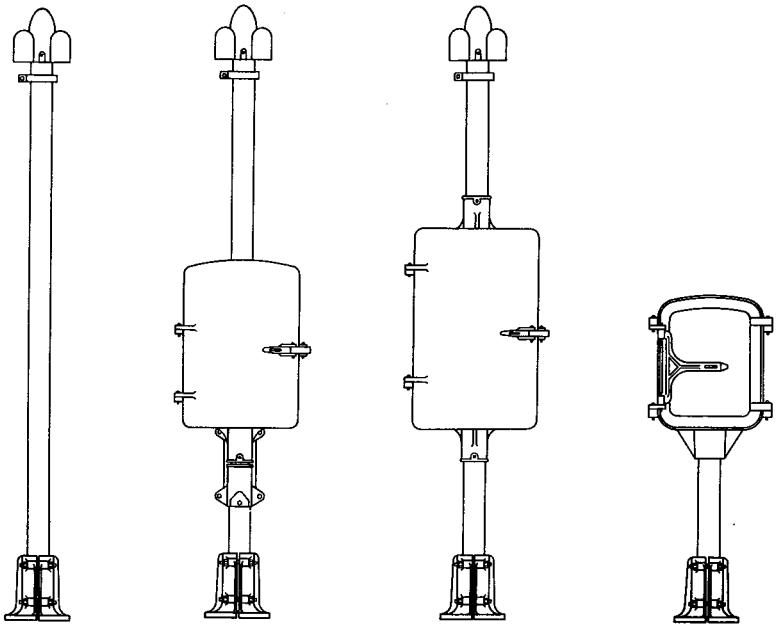
Other detail parts of this assembly are shown on Plates E185 and E190.

ORDERING REFERENCE

Specify Plate Number E170, Reference Number, and Description

Ref. No.	Description	Dwg. Ref.
1	Type 1075 Relay Case and Cable Post assembly complete (as shown).....	A418
2	Type 1023 Relay Case and Cable Post assembly complete (as shown).....	A418B

Standard Cable Posts



Ref. 1 Ref. 2 and 3 Ref. 4 and 5 Ref. 6

The Cable Post Assemblies shown are only a few of the many possible combinations. Special designs or variations from those illustrated can be furnished to specification. Posts are 4" I.D. pipe post and consist of parts as shown below.

Individual relay boxes are shown on Plates E155 and E160.

Pinnacles and messenger clamps are shown on Plate E185.

Bases are shown on Plate E190.

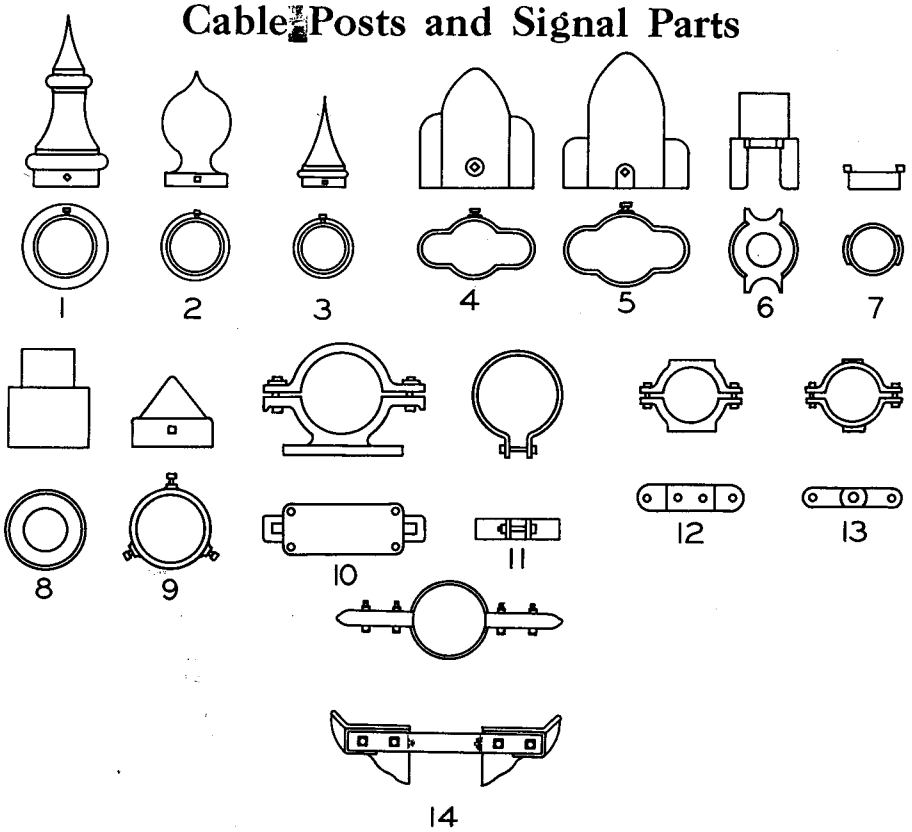
ORDERING REFERENCE

Specify Plate Number E175, Reference Number, and Description

Ref. No.	Description	Drawing No.
1	Nine foot cable post complete with No. 14492 Split Base, No. 20 Messenger Clamp, and No. 874-24 Cable Hood	A–487
2	Nine foot cable post complete with No. 14492 Split Base, No. 580-C Relay Box with bracket, No. 20 Messenger Clamp, and No. 874-24 Cable Hood	A–488–1
3	Nine foot cable post complete with No. 14492 Split Base, No. 1704 Relay Box with bracket, No. 20 Messenger Clamp, and No. 874-24 Cable Hood	A–488–2
4	Nine foot cable post complete with No. 14492 Split Base, No. 1190-A-44 Relay Box, No. 20 Messenger Clamp, and No. 874-24 Cable Hood	A–489–1
5	Nine foot cable post complete with No. 14492 Split Base, No. 1190-B-44 Relay Box, No. 20 Messenger Clamp, and No. 874-24 Cable Hood	A–489–2
6	Cable post complete with three feet of pipe, No. 14492 Split Base, and No. 1704 Relay Box	A–490

WESTERN RAILROAD SUPPLY COMPANY

Cable Posts and Signal Parts



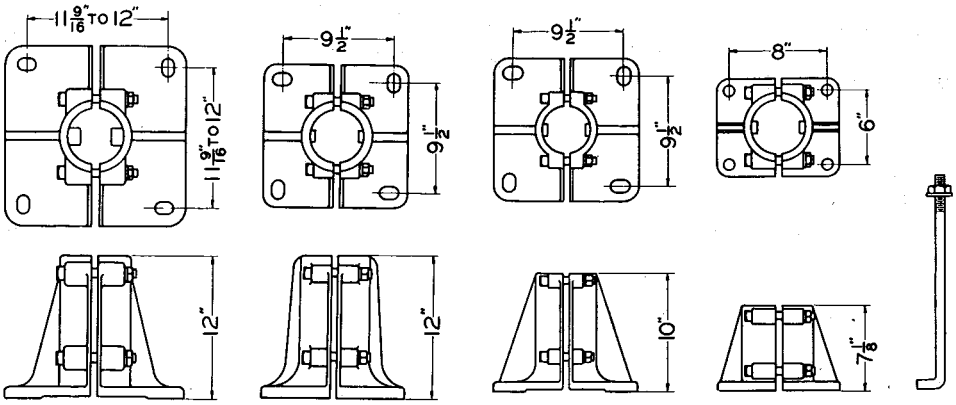
ORDERING REFERENCE

Specify Plate Number E185, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Pinnacle for 4″ I.D. pipe...	1082
2	Pinnacle for 4″ I.D. pipe...	874–1
3	Pinnacle for 3″ I.D. pipe...	874–9
4	Cable Hood for 3″ I.D. pipe	874–12
5	Cable Hood for 4″ I.D. pipe	874–24
6	Bushing for 3″ I.D. pipe...	874–14
7	Bushing for 4″ I.D. pipe...	874–23
8	Reducer for 5″ to 4″ I.D. pipe.....	990–63
8a	Reducer for 4″ to 3″ I.D. pipe.....	C–34
8b	Reducer for 5″ to 3″ I.D. pipe.....	D–25
8c	Reducer for 3½″ to 3″ I.D. pipe.....	D–27
9	Pinnacle for 4″ I.D. pipe...	110–6
9a	Pinnacle for 3½″ I.D. pipe.	110–7
9b	Pinnacle for 5″ I.D. pipe...	110-8
10	Clamp complete for 3″ I.D. pipe.....	873–41
10a	Clamp complete for 3½″ I. D. pipe.....	873–42
10b	Clamp complete for 4″ I.D. pipe.....	873–43
10c	Clamp complete for 5″ I.D. pipe.....	873–44
11	Messenger clamp for 3″ I.D. pipe.....	14
11a	Messenger clamp for 3½″ I. D. pipe.....	19
11b	Messenger clamp for 4″ I.D. pipe.....	20
12	Clamp for 4″ I.D. pipe....	513–1
12a	Clamp for 5″ I.D. pipe....	513–2
13	Clamp for 4″ I.D. pipe....	513–3
13a	Clamp for 5″ I.D. pipe....	514–6
14	Iron pole step for 3½″ I.D. pipe.....	10150
14a	Iron pole step for 4″ I.D. pipe.....	10151
14b	Iron pole step for 5″ I.D. pipe.....	10152

WESTERN RAILROAD SUPPLY COMPANY

Cast Iron Split Bases



Type 2143 for 4" I.D. pipe

Type 2145 for 5" I.D. pipe

Type 14492 for 4" I.D. pipe

Type 11806 for 3½" I.D. pipe

Type 3 for 3" I.D. pipe

Type 4 for 4" I.D. pipe

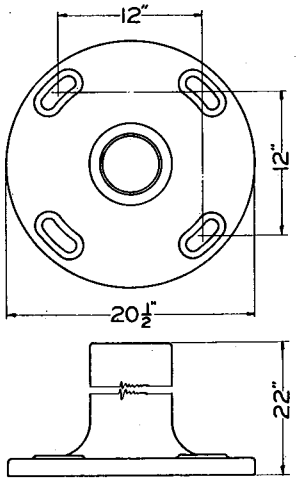
ORDERING REFERENCE

Specify Plate Number E190, Reference Number, and Description

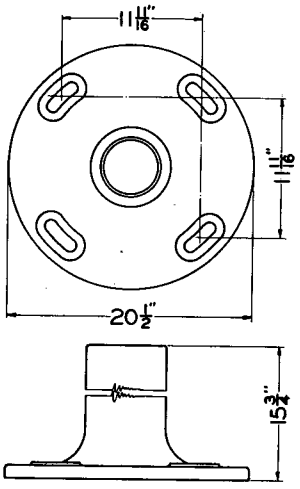
Ref. No.	Description	Piece No.
1	Type 2143 Split Base Assembly for 4" I.D. pipe	2143
2	Type 2143 Split Base—Half	2143–1
3	Type 2145 Split Base Assembly for 5" I.D. pipe	2145
4	Type 2145 Split Base—Half	2145–1
5	Type 14492 Split Base Assembly for 4" I.D. pipe	14492
6	Type 14492 Split Base—Half	1449–1
7	Type 11806 Split Base Assembly for 3½" I.D. pipe	11806
8	Type 11806 Split Base—Half	11806–1
9	Type 3 Split Base Assembly for 3" I.D. pipe	3
10	Type 3 Split Base—Half	3–1
11	Type 4 Split Base Assembly for 4" I.D. pipe	4
12	Type 4 Split Base—Half	4–1
13	¾"x18" anchor bolt complete with nut and washer	
14	¾"x24" anchor bolt complete with nut and washer	
15	1"x30" anchor bolt complete with nut and washer	
16	1"x36" anchor bolt complete with nut and washer	

NOTE: Anchor bolts other than those listed can be furnished to meet any requirements.

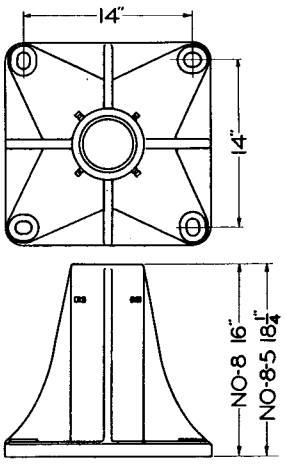
Cast Iron Solid Bases



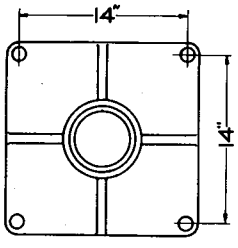
Type 874-4 for 5" I.D. pipe

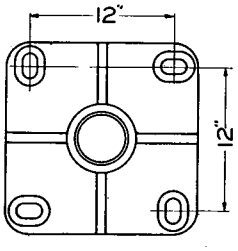


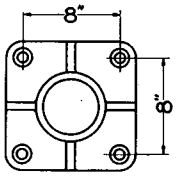
Type 44 for 4" I.D. pipe

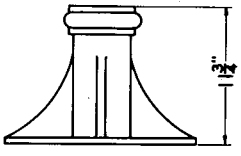


Type 8 for 4" I.D. pipe
Type 8-5 for 5" I.D. pipe

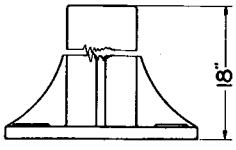




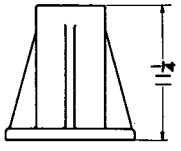




Type 706 for 4" I.D. pipe



Type 874-20 for 4" I.D. pipe



Type 883-4 for 3½" I.D. pipe
Type 883-5 for 4" I.D. pipe

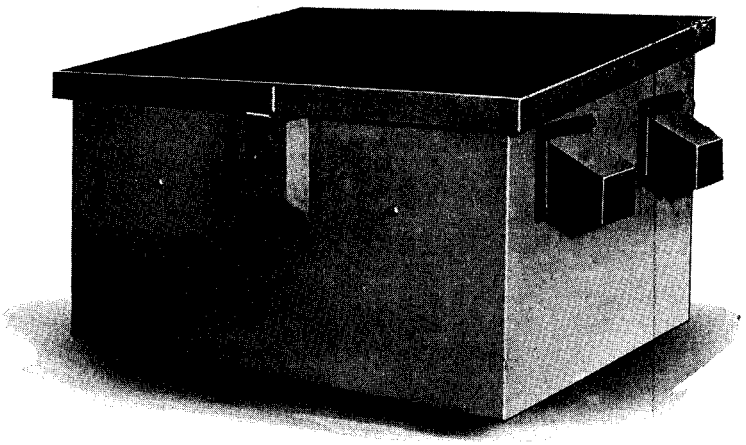
ORDERING REFERENCE

Specify Plate Number E190, Reference Number, and Description

Ref. No.	Description	Piece No.
20	Type 874-4 Solid Base for 5" I.D. pipe	874–4
21	Type 44 Solid Base for 4" I.D. pipe	44
22	Type 8 Solid Base for 4" I.D. pipe	8
23	Type 8-5 Solid Base for 5" I.D. pipe	8–5
24	Type 706 Solid Base for 4" I.D. pipe	1706
25	Type 874-20 Solid Base for 4" I.D. pipe	874–20
26	Type 883–4 Solid Base for 3½" I.D. pipe	883–4
27	Type 883-5 Solid Base for 4" I.D. pipe	883–5

Concrete Battery Boxes

A.A.R. SIGNAL SECTION DRAWING 1266



Used to house Storage or Primary Batteries. Has metal reinforcement and is waterproof. Furnished with metal trunking caps and metal hoods protecting vent openings. When ordering specify number of outlet covers and outlet caps desired.

Cover is made of galvanized iron with wood lining.

NOTE: Dimensions shown are outside dimensions.

ORDERING REFERENCE

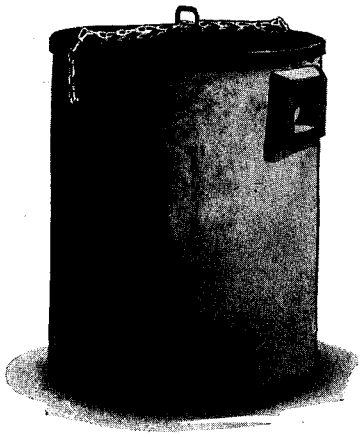
Specify Plate Number E200, Reference Number, and Description

Ref. No.	Description	A. A. R. Dwg.
1	Single Unit Concrete Battery Box, 27″ high by 23″ wide by 39″ deep.....	12661
2	Two Unit Concrete Battery Box, 27″ high by 4′ 2″ wide by 39″ deep.....	12662
3	Three Unit Concrete Battery Box, 27″ high by 6′ 5″ wide by 39″ deep....	12663
4	Four Unit Concrete Battery Box, 27″ high by 8′ 8″ wide by 39″ deep.....	12664

WESTERN RAILROAD SUPPLY COMPANY

Concrete Battery Tubs

REINFORCED



Type 10-E Capacity, 10 A.A.R. Cells. Diameter: 2′-8″ O.D., 2′-4″ I.D. Height: 2′-6″ overall; 1′-8″ floor to frost cover.

Type 6-E Capacity, 6 A.A.R. Cells. Diameter: 2′-3″ O.D., 1′-11″ I.D. Height: 2′-6″ overall; 1′-8″ floor to frost cover.

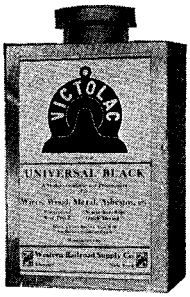
Type 3-E Capacity, 3 A.A.R. Cells. Diameter: 1′-9″ O.D., 1′-5″ I.D. Height: 2′-6″ overall; 1′-11″ floor to cover.

ORDERING REFERENCE

Specify Plate Number E205, Reference Number, and Description

Ref. No.	Description
1	Type 10-E Concrete Battery Tub
2	Type 6-E Concrete Battery Tub
3	Type 3-E Concrete Battery Tub

Victolac Universal Black



Victolac Universal Black is unexcelled for use in painting and insulating soldered and taped joints, junction boxes, switchboards, cables, battery racks, storage batteries, transformers, switch rod or rail insulations, and in fact, for all purposes where an insulating and protective paint or varnish is required.

Victolac is the ideal material in its field, because while it dries quickly with a permanent hard, glossy surface, it will never chip, crack, nor deteriorate the insulation or other material with which it comes in contact. At the same time, it offers positive permanent protection against the effects of weather, moisture, acids, alkalies, gases, etc.

Victolac No. 1 is a quick drying paint suitable for both indoor and outside use.

Victolac No. 2 is a slightly slower drying compound recommended for painting aerial cables, etc.

Furnished in one pint, one gallon and five gallon containers, also 55-gallon one time shipping drums.

ORDERING REFERENCE

Specify Plate Number E220, Reference Number, and Description

Ref. No.	Description
1	Victolac No. 1 Universal Black, in one-pint can
2	Victolac No. 1 Universal Black, in one-gallon can
3	Victolac No. 1 Universal Black, in five-gallon can
4	Victolac No. 1 Universal Black, in 55-gallon one time shipping drum
5	Victolac No. 2 Universal Black, in one-pint can
6	Victolac No. 2 Universal Black, in one-gallon can
7	Victolac No. 2 Universal Black, in five-gallon can
8	Victolac No. 2 Universal Black, in 55-gallon one time shipping drum

WESTERN RAILROAD SUPPLY COMPANY

Victolac Parkway Cable Sealing Compound

Victolac Sealing Compound is extremely economical in that it can be melted in its original container and carried from place to place without waste.

This is a high grade insulating material which is unequalled for application to parkway cable bootlegs, junction boxes and trunking where sealing is desirable to prevent corrosion and deterioration. It will not absorb moisture, is dense and very adhesive, sets with practically no shrinkage, is pliable at all times (even in coldest weather), is free from all chemical impurities, and is acid-proof.

Victolac No. 25 is especially suitable for use where there is a wide fluctuation in prevailing temperatures, as it has a remarkably constant volume notwithstanding temperature changes. For voltages up to 6,000. Melting point 180° F. Furnished only in 25-lb. pails.

Victolac No. 78; an especially high grade compound for voltages up to 22,000. Dielectric strength 940 volts per mil. Melting point 169° F. Furnished in one gallon containers.

ORDERING REFERENCE

Specify Plate Number E220, Reference Number, and Description

Ref. No.	Description
11	Victolac No. 25, in twenty-five pound pail.
12	Victolac No. 78, in one-gallon can.

Horn Aluminum Paint

One gallon of Horn Aluminum Paint will cover and hide 40% more area than any other nationally advertised brand of aluminum paint, most of which are made with powder instead of paste.

The paste pigment is made of tiny extremely thin and highly polished scales of treated aluminum. When these are applied to a surface they overlap and thus give exceptional protection. The vehicle is especially developed for use with the paste pigment, and at the same time it meets with the rigid U. S. Navy specification 52-V-60-A, the most durable of all varnishes.

Light reflection is 70% of the total light falling on the lustrous metallic film. Heat reflection has been determined by the Bureau of Mines to be 90% of the heat rays from the reflected light.

Furnished in pints, quarts, one-gallon, and five-gallon containers.

ORDERING REFERENCE
Specify Plate Number E222, Reference Number, and Description

Ref. No.	Description
1	Horn Aluminum Paint, in one-pint can
2	Horn Aluminum Paint, in one-quart can
3	Horn Aluminum Paint, in one-gallon can
4	Horn Aluminum Paint, in five-gallon can

Horn Signal Cement

A plastic cement for sealing lenses in place, wire entrances in relay cases, cable junction boxes, cabinets, etc. It is elastic, adhesive, and will not run in heat. It retains these qualities for years, permitting removal of wires and the running of new wires without replacing the wire entrance seal. Furnished in gray or black.

Available in half-gallon containers, packed twelve cans to the case, and one gallon containers, packed four to the case. Specify gray or black.

ORDERING REFERENCE
Specify Plate Number E222, Reference Number, and Description

Ref. No.	Description
5	Horn Signal Cement, in half-gallon container (Specify gray or black)
6	Horn Signal Cement, in one-gallon container (Specify gray or black)

Horn Galvanide Zinc Paint

Because Galvanide produces a true galvanic action between itself and the metal to which it is applied, it is a quick economical means whereby weathered galvanizing may be easily renewed. For the same reason a coat of Galvanide on any bare or painted metal is equal to an expensive or even impossible galvanizing job.

Covering capacity is about 800 square feet per gallon (about twice as great as with ordinary zinc paint). Furnished in one- or five-gallon containers.

ORDERING REFERENCE
Specify Plate Number E222, Reference Number, and Description

Ref. No.	Description
7	Horn Galvanide Zinc Paint, in one-gallon can
8	Horn Galvanide Zinc Paint, in five-gallon can

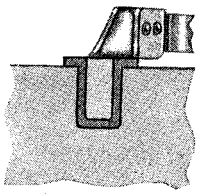
WESTERN RAILROAD SUPPLY COMPANY

Rail Head Signal Bond

Patent Number 2,092,505

Front View

Rear View



Sectional View

This rail bond has several patented features not available in other bonds. When the plugs are driven flush with the ball of the rail the plug itself does not expand but flattens out the spherical cup at the bottom of the terminal, thus forcing the terminal against the side of the hole in the rail. Naturally, the plug also forces the sides of the copper terminal in contact with the side walls of the hole.

Another advantage is that no special tools are required for driving the plugs into the rail when installing the bonds. Moreover, there is no danger of loosening the bond by tilting the installing tool sideways when removing it from the holes.

The bond may be furnished either with a conductor of laminated copper strips as illustrated or with a stranded conductor as specified.

ORDERING REFERENCE

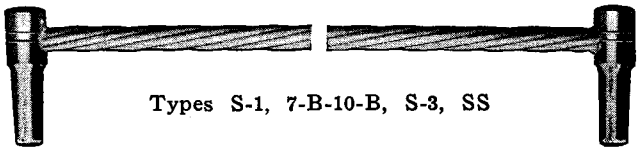
Specify Plate Number E250, Reference Number and Description

Ref. No.	Description	Piece No.
1	Rail Head Signal Bond with laminated conductor	2903
2	Rail Head Signal Bond with stranded conductor as specified	2904

WESTERN RAILROAD SUPPLY COMPANY

Tigerweld Signal Bonds

AMERICAN STEEL AND WIRE COMPANY



Types S-1, 7-B-10-B, S-3, SS

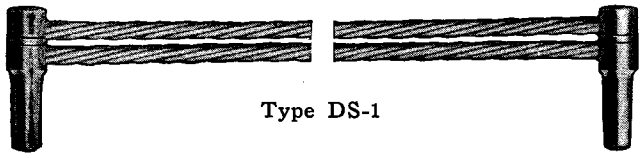
Terminals are of steel, ⅜", tapered and butt welded onto the conductors.

Type S-1—Widely used for regular joint bonding. Composed of 6 extra galvanized steel wires and 1 annealed copper wire. All No. 12 B.W.G.

Type 7-B-10-B—For track circuit connections, frog and fowling bonds, and road crossings. This bond offers great resistance to corrosion. Composed of 7 No. 10 A.W.G., 40% copperweld wires. Also available in extra long lengths for use as jumper (Specify Type 7-J-10-B). Can also be furnished with pin on one end only (Specify Type 7-S-10-B). Bonds and jumpers of these types are also available composed of 7 No. 12 A.W.G., 40% copperweld wires. (Specify 7-B-12-B—similar to 7-B-10-B, 7-S-12-B—similar to 7-S-10-B—and 7-J-12-B—similar to 7-J-10-B.)

Type S-3—Used under severe corrosive conditions such as tunnels and road crossings and places where high conductivity is required. Composed of 7 No. 10 A.W.G. copper wires, annealed after stranding.

Type SS—Composed of 7 No. 12 B.W.G. extra galvanized steel wires of low resistivity.



Type DS-1

Terminals are of steel, ⅜", tapered and butt welded onto the conductors.

Type DS-1 Tigerweld Duplex Bond provides a very flexible conductor that will function practically as 2 separate bonds and offers excellent insurance against "bare" joints. Composed of 2 conductors, each having 6 extra galvanized steel wires and 1 annealed copper wire—all No. 14½ B.W.G.

NOTE: Specify length desired.

ORDERING REFERENCE
Specify Plate Number E260, Reference Number, and Description

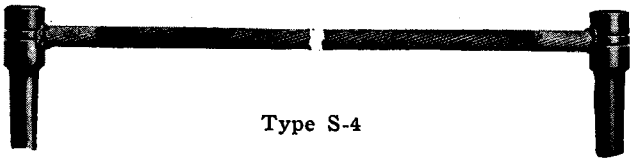
Ref. No.	Description
1	Type S-1 Tigerweld Single Stranded Bond (Specify length)
2	Type 7-B-10-B Tigerweld Single Stranded Bond (Specify length)
2a	Type 7-S-10-B Tigerweld Single Stranded Bond (Specify length)
2b	Type 7-J-10-B Tigerweld Single Stranded Bond (Specify length)
2c	Type 7-B-12-B Tigerweld Single Stranded Bond (Specify length)
2d	Type 7-S-12-B Tigerweld Single Stranded Bond (Specify length)
2e	Type 7-J-12-B Tigerweld Single Stranded Bond (Specify length)
3	Type S-3 Tigerweld Single Stranded Bond (Specify length)
4	Type SS Tigerweld Single Stranded Bond (Specify length)
5	Type DS-1 Tigerweld Duplex Stranded Bond (Specify length)

See page 4 for bonding information.

Tigerweld Signal Bonds

AMERICAN STEEL AND WIRE COMPANY

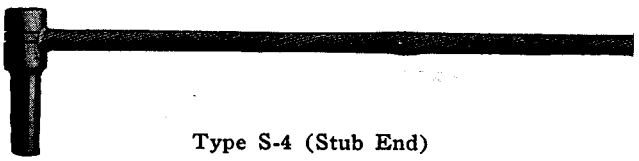
(Continued)



Type S-4

Terminals are of steel, 3/8", tapered and butt welded onto the conductors.

Type S-4—Similar to Type S-3 except that it has a No. 2 B&S Gauge 37 wire copper conductor, annealed after stranding. Particularly advantageous for use on poor joints.



Type S-4 (Stub End)

Terminals are of steel, 3/8", tapered and butt welded onto the conductors.

Type S-4 Stub End Bonds are used quite extensively for track circuit connections in signaling. Conductor is same as used on Type S-4.

NOTE: Specify length desired.

ORDERING REFERENCE
Specify Plate Number E260, Reference Number and Description

Ref. No.	Description
6	Type S-4 Tigerweld Single Stranded Bond (Specify length desired)
7	Type S-4 Stub End Tigerweld Single Stranded Bond (Specify length desired)

See page 4 for bonding information.

Tigerweld Signal Bonds

AMERICAN STEEL AND WIRE COMPANY

(Continued)

Type BW-2

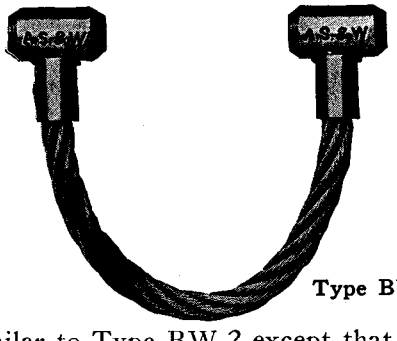
With some types of bond terminal even the most experienced welders often fail to weld all of the wires. With the BW-2 Bond this fault is eliminated as it is necessary to weld only the terminal to the rail. The solid steel terminal insures full efficiency of the bond as it is securely attached to the rail.

The thin lip forms a shelf for depositing the metal and permits the bond to be placed low on the rail head. The conductor consists of 1 strand of 19 annealed copper wires, surrounded by 6 pre-formed strands, each composed of 19 specially refined galvanized steel wires. This bond may also be furnished in all steel construction.

BW-2 Bond will be furnished with overall length of 9½" when straightened.

ORDERING REFERENCE
Specify Plate Number E260, Reference Number, and Description

Ref. No.	Description
8	Type BW-2 Tigerweld Single Stranded Bond, annealed copper and galvanized steel construction.
9	Type BW-2 Tigerweld Single Stranded Bond, all steel construction.



Type BW-1

Type BW-1 is similar to Type BW-2 except that it is "U" shaped. The standard overall length when straight and extended is 8 inches.

ORDERING REFERENCE
Specify Plate Number E260, Reference Number, and Description

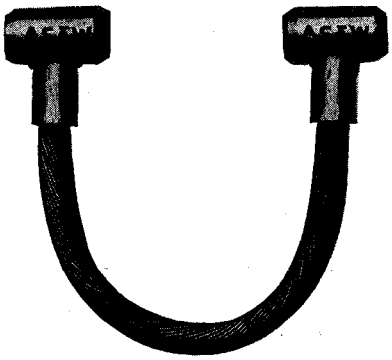
Ref. No.	Description
10	Type BW-1 Tigerweld Single Stranded Bond, annealed copper and galvanized steel construction.
11	Type BW-1 Tigerweld Single Stranded Bond, all steel construction.

See page 4 for bonding information.

Tigerweld Signal Bonds

AMERICAN STEEL AND WIRE COMPANY

(Continued)



Type BF-1

Type BF-1—Long

Type BF-1 (Stub End)

The bonds shown above are designed for application with oxy-acetylene flame or electric arc and steel electrode. Composed of a stranded copper conductor, No. 2 A.W.G., 61 wires, with galvanized steel sleeves at each end. The sleeves and conductor are flash butt welded to solid steel terminals.

Also available are BF-2 Bonds, similar to the above, designed for use with Weber Joints.

ORDERING REFERENCE

Specify Plate Number E260, Reference Number, and Description

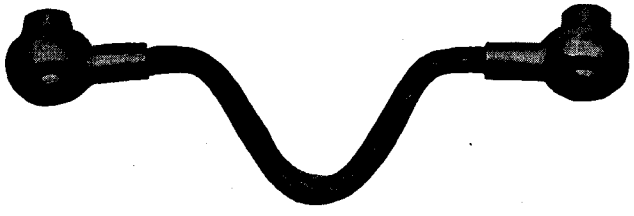
Ref. No.	Description
12	Type BF-1 Tigerweld Single Stranded Bond (Specify length desired)
13	Type BF-1-Long Tigerweld Single Stranded Jumper (Specify length desired)
14	Type BF-1 Stub End Tigerweld Single Stranded Bond (Specify length desired)
15	Type BF-2 Tigerweld Single Stranded Bond (Specify length desired)
16	Type BF-2-Long Tigerweld Single Stranded Bond (Specify length desired)
17	Type BF-2 Stub End Tigerweld Single Stranded Bond (Specify length desired)

See page 4 for bonding information.

WESTERN RAILROAD SUPPLY COMPANY

Tigerweld Signal Bonds

AMERICAN STEEL AND WIRE COMPANY
(Continued)



Type BA-2M

Type BA-2M is made with a 7x19 rope stranded bronze conductor of high fatigue resistance. The installation of the bond is very simple and efficient. Holes ⅜" diameter, ¼" deep, ⅜" from the bottom of the rail head to the center of the hole, 3⅞" from center to center are drilled in adjoining rail heads. The studs are next fitted into the holes and the hardened steel pin in the terminal given three smart blows with a 2½ lb. hammer. The bond is then tight and firm to stay. The husky stud type terminals of solid steel have the same coefficient of expansion as the steel rail. This bond is manufactured by the patented flash buttwelding process, the same as all other Tigerweld bonds. With this method of assembly, a union is perfected between the terminal and conductor that is stronger than the conductor itself. The tinned outer wires give the appearance of an all-steel bond—sneak thieves pass it by.

ORDERING REFERENCE
Specify Plate Number E260, Reference Number, and Description

Ref. No.	Description
18	Type BA-2M Tigerweld Single Stranded Bond.....

See page 4 for bonding information.

Channel Pins

COPPERED OR TINNED

Single-Grooved Pin (A.A.R. 10861)

Double-Grooved Pin (A.A.R. 10862)

Our Channel Pins are A.A.R. Signal Section Standard in every detail. Improved methods of manufacture as well as plating insures a product of highest quality.

Ample facilities enable us to deliver any quantity of pins on short notice. Our long experience in the manufacture of channel pins assures accuracy of dimensions as well as quality of plating, whether tinned or coppered.

ORDERING REFERENCE

Specify Plate Number E265, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Single-Grooved Channel Pin, Tinned	339
2	Single-Grooved Channel Pin, Coppered	340
3	Double-Grooved Channel Pin, Tinned	342
4	Double-Grooved Channel Pin, Coppered	343

See page 4 for bonding information.

WESTERN RAILROAD SUPPLY COMPANY

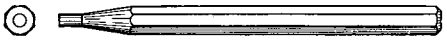
Channel Pin Punches and Sets

STANDARD SIZE

8 Inches Long

Ref. 1

Ref. 4



Ref. 2

Ref. 5

Ref. 3

Ref. 6

For Single-Grooved $\frac{9}{32}$" Pins

For Double-Grooved $\frac{3}{8}$" Pins

INSPECTOR'S POCKET SIZE

Sets 5 Inches Long. Punches 6 Inches Long

Ref. 7

Ref. 9

Ref. 8

Ref. 10

For Single-Grooved $\frac{9}{32}$" Pins

For Double-Grooved $\frac{3}{8}$" Pins

ORDERING REFERENCE

Specify Plate Number E267, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Standard Channel Pin Set for $\frac{9}{32}$" Single-Grooved Pins	1851
2	Standard Channel Pin Punch for $\frac{9}{32}$" Single-Grooved Pins	1852
3	Standard Channel Pin Drift Punch for $\frac{9}{32}$" Single-Grooved Pins	1853
4	Standard Channel Pin Set for $\frac{3}{8}$" Double-Grooved Pins	1854
5	Standard Channel Pin Punch for $\frac{3}{8}$" Double-Grooved Pins	1855
6	Standard Channel Pin Drift Punch for $\frac{3}{8}$" Double-Grooved Pins	1856
7	Pocket Size Channel Pin Set for $\frac{9}{32}$" Single-Grooved Pins	1857
8	Pocket Size Channel Pin Punch for $\frac{9}{32}$" Single-Grooved Pins	1858
9	Pocket Size Channel Pin Set for $\frac{3}{8}$" Double-Grooved Pins	1859
10	Pocket Size Channel Pin Punch for $\frac{3}{8}$" Double-Grooved Pins	1860

See page 4 for bonding information.

Bond Wires

COPPER AND GALVANIZED IRON

Cut any length from No. 8 BWG EBB Galvanized Iron Wire or from No. 6 B. & S. (which equals No. 8 BWG) Copper. Put up in bundles of 200 wires each.

ORDERING REFERENCE

Specify Plate Number E270, Reference Number, and Description

Description—No. 8 BWG EBB Galvanized Iron Bond Wires

Ref. No.	Length Inches	Approximate Weight Per 1000, Pounds	Approximate Wires Per Cwt.
1	40	250	400
2	42	261	380
3	44	275	364
4	46	286	345
5	48	300	333
6	50	310	318
7	52	324	306
8	54	337	295
9	56	348	284
10	58	360	275
11	60	375	268
12	62	386	257
13	64	395	248
14	66	410	241
15	68	423	234
16	70	435	229
17	72	450	222

Description—No. 6 B & S Gauge, Solid Copper Bond Wires

18	42	275	361
19	44	287	343
20	48	315	315
21	52	341	290
22	54	355	280
23	60	393	251

See page 4 for bonding information.

WESTERN RAILROAD SUPPLY COMPANY

Armco Iron

Bond Wires—Line Wires

No. 8 BWG

ARMCO IRON WIRE has the best rust-resisting features and the highest electrical conductivity known to iron or steel products, and being extremely uniform in both chemical and physical structure has no weak spots or localized impurities where pitting may occur and ultimately cause breakage or reduced electrical conductivity.

ARMCO IRON BOND WIRES meets all requirements of the A. A. R. They are furnished in the usual lengths or will be cut to any special lengths required. They are made of the purest commercial iron manufactured, guaranteed to contain not less than 99.84 per cent pure iron, surpassing in this respect Swedish and Norway brands or nearly pure irons.

Bond wires are double galvanized, but their unusual resistance to corrosion is not due to the surface treatment alone. Their purity and uniformity, as shown by the analysis, make them rust-resisting through and through.

Bond wires are furnished of No. 8 BWG, double galvanized in same standard lengths and having approximate weights as EBB bond wires listed on opposite page. Order as "Armco Iron Bond Wires" specifying length desired.

ARMCO IRON LINE WIRE, the same product, cannot be equaled in conductivity, tensile strength, rust-resisting qualities or ease of handling by any other iron or steel wire.

Armco iron line wire is coiled in convenient ¼, ⅓, and ½ mile coils and is highly recommended for Signal, Telephone and Telegraph line wire.

All line wire is furnished in ½ mile coils unless otherwise specified. Order as "Armco Iron Line Wire" specifying gauge desired.

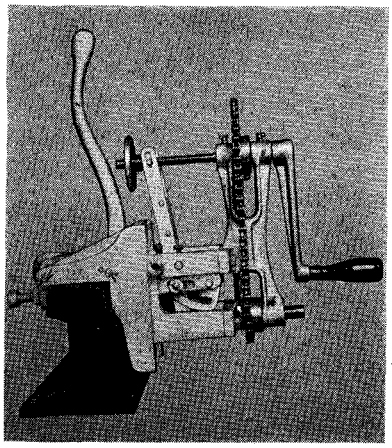
ANALYSIS OF ARMCO IRON

Sulphur, Phosphorus, Carbon, Manganese, Silicon, Copper, Oxygen, Nitrogen, Hydrogen	16/100 of 1%
Iron	99 84/100%
Total	100%

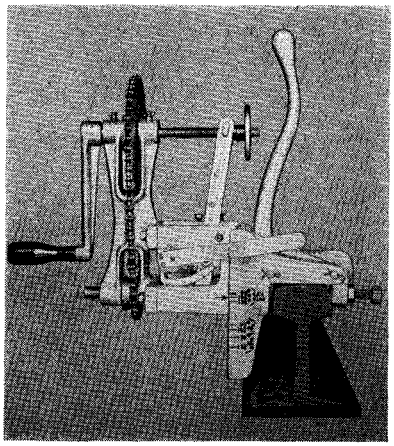
See page 4 for bonding information.

WESTERN RAILROAD SUPPLY COMPANY

Type 5401 Hand Drill



In position for drilling web of rail



In position for drilling head of rail

Type 5401 Hand Drill is a small, sturdy, compact unit weighing only 15 pounds and, as such, is ideal for maintenance use outside of large rail-laying programs. It is designed to clamp to the ball of the rail and is furnished with a mechanical semi-automatic feed. It is so constructed that the drill can be thrown out of position and the entire unit removed from the rail in a few seconds.

This hand drill is adjustable for drilling the web or the head of 90 lb. to 152 lb. rail. A scale on the drill shows the correct adjustment for the various rail sizes.

The Drill is furnished with two adaptor chucks for drilling the web of the rail with either 3/8" or 9/16" drills. The head of the rail can be drilled only with the 3/8" drill. Provision is made for holding the chucks when not in use to prevent loss.

ORDERING REFERENCE
Specify Plate Number E295, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 5401 Hand Drill complete	5401–1

Bonding Drills

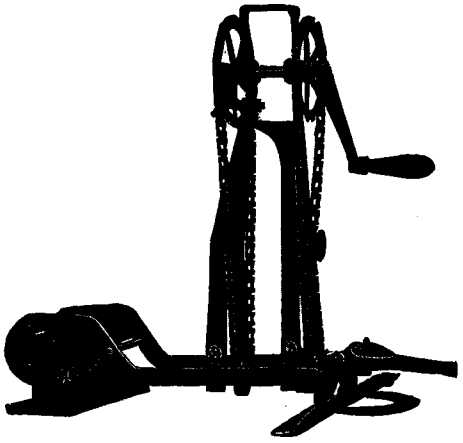
FLATTED SHANKS

ORDERING REFERENCE
Specify Plate Number E295, Reference Number, and Description

Ref. No.	Description	Piece No.
11	Carbon bonding drill, 9/32", 3 inches long	1451
12	High speed bonding drill, 9/32", 3 inches long	1452
13	High speed bonding drill, 3/8", 3 inches long, 9/32" shank	1454
14	High speed bonding drill, 3/8", 3 inches long, 3/8" shank	1455

WESTERN RAILROAD SUPPLY COMPANY

No. 2 Drilling Machine

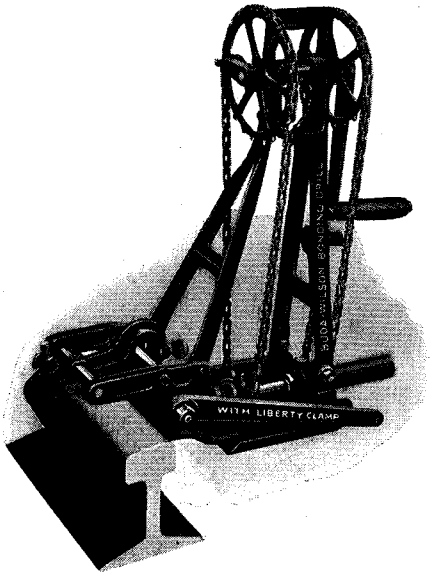


The No. 2 Drilling Machine rests on the tie for drilling the web of the rail. It can be furnished with the set screw spindle or the Hyduty spindle and chuck.

ORDERING REFERENCE
Specify Plate Number E300, Reference Number, and Description

Ref. No.	Description
1	No. 2 Drilling Machine with set screw spindle for 9/32" dia. flatted drill shank
2	No. 2 Drilling Machine with Hyduty spindle and chuck for 9/32" dia. flatted drill shank.
3	No. 2 Drilling Machine with set screw spindle for 3/8" dia. flatted drill shank
4	No. 2 Drilling Machine with Hyduty spindle and chuck for 3/8" dia. flatted drill shank.

B. W. Drilling Machine



WITH LIBERTY CLAMP

The B. W. Drilling machine clamps to the rail and is adjustable for drilling the head or web of any size rail.

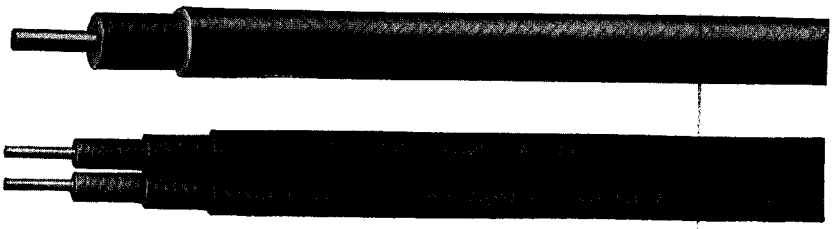
ORDERING REFERENCE
Specify Plate Number E300, Reference Number, and Description.

Ref. No.	Description
5	B. W. Drilling Machine for 9/32" dia. flatted shank
6	B. W. Drilling Machine for 3/8" dia. flatted drill shank

WESTERN RAILROAD SUPPLY COMPANY

Insulated Wires

A.A.R. SIGNAL SECTION AND N.E.C. SPECIFICATIONS



Insulated copper wire can be furnished with any grade of insulation desired for any class of service or type of installation, solid, stranded, or flexible. All sizes are available with any standard grade of insulation. No. 14, No. 12, and No. 9 B&S gauge solid, insulated in accordance with A.A.R. Signal Section Specifications, are carried in our stock at all times. Other sizes and grades are in manufacturers' stock for prompt delivery.

Detailed specifications and prices furnished on request.

Weatherproof Line Wire

Double Braid **Triple Braid**

N. E. C. and A. A. R. Standard

Double Braid

Triple Braid

There is a large demand for electrical wires and cables having a moderate degree of insulation and less expensive than rubber insulated conductors. For outdoor service double and triple braid Reliance Weatherproof wire meets these requirements in every particular. These wires and cables are made in strict accordance with all the requirements of the National Board of Fire Underwriters, the sizes varying from No. 18 B. & S. to the largest feeder cable used.

The wires are first covered with two or three evenly woven braids of strong fibrous material, after which they are placed in a hot bath of weather-proof insulating compound. They remain in this bath long enough to completely and thoroughly saturate the fibrous insulation. After thoroughly drying, the wire then receives a dressing of mineral wax, after which the surface is thoroughly burnished and polished, reducing to a minimum trouble from sleet and ice.

WESTERN RAILROAD SUPPLY COMPANY

Parkway or Suburban Cable

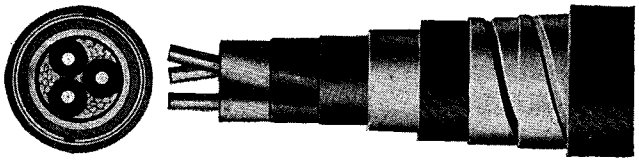
STANDARD FORMS

Solid or Stranded Conductors

Single Conductor. Flat Tape

Single Conductor. Armorlokt Steel Tape

Flat Twin or Two Conductor. Flat Tape



Triple or Three Conductor. Flat Tape

Parkway or suburban cable is available in two general forms, i.e., round or oval. It can be furnished with No. 14 B.&S. Ga., or any larger size wire. and with any number of conductors desired.

It will be furnished with either flat steel tape or the Armorlokt steel tape as specified. Tape and jute finish without armor or with lead sheath and other make ups are available as may be specified.

These cables can be supplied insulated for 600 volt service, 2500 volt service or 5000 volt service as specified.

Detailed specifications and prices furnished upon request.

WESTERN RAILROAD SUPPLY COMPANY

Premier Seamless Wire Sleeves

McINTIRE TYPE

(ONE PIECE)

Open or closed center as specified.

The trouble experienced where soldered or brazed joint sleeves were used cannot occur where Premier Seamless Wire Sleeves are installed, as they are made of drawn seamless tubing, having no joints to open up when being twisted. Years of service under all manner of conditions have proven them to have maximum conductivity, durability, more than ample carrying capacity and tensile strength in excess of that of the wire.

ORDERING REFERENCE

Specify Plate Number E310, Reference Number, and Description

Ref. No.	Description
1	Premier Seamless Wire Sleeve, No. 4 B&S, 8″ long, open center
2	Premier Seamless Wire Sleeve, No. 4 B&S, 8″ long, closed center
3	Premier Seamless Wire Sleeve, No. 6 B&S, 6¾″ long, open center
4	Premier Seamless Wire Sleeve, No. 6 B&S, 6¾″ long, closed center
5	Premier Seamless Wire Sleeve, No. 9 B&S, 5¼″ long, open center
6	Premier Seamless Wire Sleeve, No. 9 B&S, 5¼″ long, closed center
7	Premier Seamless Wire Sleeve, No. 10 B&S, 4¾″ long, open center
8	Premier Seamless Wire Sleeve, No. 10 B&S, 4¾″ long, closed center
9	Premier Seamless Wire Sleeve, No. 11 B&S, 4⅝″ long, open center
10	Premier Seamless Wire Sleeve, No. 11 B&S, 4⅝″ long, closed center
11	Premier Seamless Wire Sleeve, No. 12 B&S, 4½″ long, open center
12	Premier Seamless Wire Sleeve, No. 12 B&S, 4½″ long, closed center
13	Premier Seamless Wire Sleeve, No. 14 B&S, 4″ long, open center
14	Premier Seamless Wire Sleeve, No. 14 B&S, 4″ long, closed center

• NOTE: Half-length sleeves furnished when specified. Double tube sleeves on following page.

WESTERN RAILROAD SUPPLY COMPANY

Double Tube Sleeves

ORDERING REFERENCE

Specify Plate Number E315, Reference Number and Description

Description: Double Tube Sleeve

Double Tube Copper Sleeves for Solid Wire

Ref. No.	Gauge No.	Diameter Wire Inches	Length Inches	Weight, Pounds Per 1000
1	0000 B & S	.460	20	1400
2	000 B & S	.410	18	1025
3	00 B & S	.365	16	675
4	0 B & S	.325	14	550
5	1 B & S	.289	12	350
6	2 B & S	.258	9½	250
7	3 B & S	.229	8¾	190
8	4 B & S	.204	6	130
9	4 B & S	.204	8	160
10	5 B & S	.182	6	115
11	6 B & S	.162	6	100
12	7 B & S	.144	5¾	85
13	8 B & S	.128	5½	60
14	8 B W G	.165	6	100
15	9 B & S	.114	5¼	50
16	9 B W G	.148	5¾	85
17	10 B & S	.102	4¾	30
18	10 B W G	.134	5½	60
19	11 B W G	.120	5¼	50
20	12 B & S	.081	4½	23
21	12 B W G	.109	4¾	35
22	12 N B S	.104	4¾	30
23	14 B & S	.064	4	20
24	14 B W G	.083	4½	23
25	14 N B S	.080	4½	23
26	16 B & S	.051	4	18
27	16 B W G	.065	4	20
28	17 B & S	.045	4	15
29	18 B W G	.049	4	18

Double Tube Tinned Steel Sleeves for Iron Wire

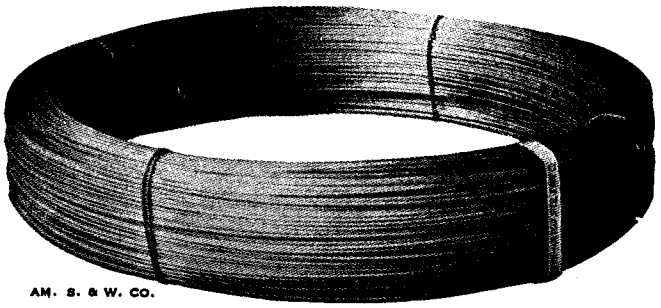
30	8 B W G	.165	6¾	110
31	9 B W G	.148	5¾	90
32	10 B W G	.134	5½	65
33	12 B W G	.109	4¾	40
34	14 B W G	.083	4½	30
35	16 B W G	.065	4	25

Double Tube Tinned Copper Sleeves for Iron Wire

36	8 B W G	.165	6¾	90
37	9 B W G	.148	5¾	60
38	10 B W G	.134	5½	55
39	12 B W G	.109	4¾	35
40	14 B W G	.083	4½	30
41	16 B W G	.065	4	25

NOTE: Half-length sleeves furnished when specified.

Double Galvanized Iron Line Wire



There are three standards of extra galvanized Line Wire as follows:

"Extra Best Best" (E.B.B.) stands highest in conductivity of any telegraph wire with a weight per mile ohm of from 4700 to 5000 pounds.

"Best Best" (B.B.) superior to E.B.B. in mechanical qualities and equal in galvanizing but of somewhat lower electrical value. Weight per mile ohm 5600 to 6000 pounds.

"Steel," more expressly designed for short line service when a measure of conductivity can be exchanged for high tensile strength in a light line. Weight per mile ohm 6500 to 7000 pounds.

While these three grades differ in physical qualities, there is no difference in galvanizing, which is of the highest commercial standard.

We carry a stock at all times of No. 8 B.W.G. E.B.B. wire in one-half mile coils and can furnish promptly wire of specified grade in sizes No. 4 to No. 14 B.W.G.

We can furnish tie wires of any size of wire cut to specified lengths in bundles of 100 or 200 wires each.

RESISTANCE AND WEIGHTS OF TELEGRAPH AND TELEPHONE WIRES

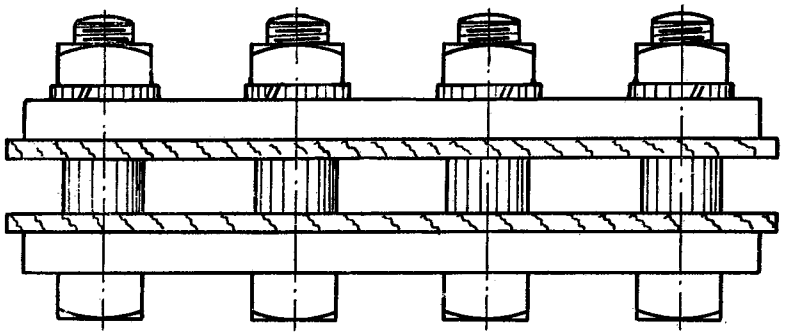
Averages of a large number of tests.

Birmingham Wire Gauge	Diameter in Inches	Weight in Pounds Per 1000 Feet	Weight in Pounds Per Mile	In Bundles (Miles)	Approximate Breaking Strain (Pounds)			Average Resistance Per Mile at 68° F. (International Ohms)		
					E. B. B.	B. B.	Steel	E. B. B.	B. B.	Steel
4	.238	153	811	¼	2,028	2,271	2,433	5.98	7.15	8.32
6	.203	112	590	⅓	1,475	1,652	1,770	8.22	9.83	11.44
8	.165	74	390	½	975	1,092	1,170	12.43	14.87	17.31
9	.148	60	314	½	785	879	942	15.44	18.47	21.50
10	.134	49	258	½	645	722	774	18.79	22.48	26.16
11	.120	39	206	½	515	577	618	23.54	28.16	32.77
12	.109	32	170	½	425	476	510	28.52	34.12	39.71
14	.083	19	99	½	247	277	297	48.98	58.59	68.18

WESTERN RAILROAD SUPPLY COMPANY

Switch Rod Insulations

A.A.R. SIGNAL SECTION DRAWING 1055



ORDERING REFERENCE

Specify Plate Number E325, Reference Number, and Description

Ref. No.	A. A. R. No.	Description	Piece No.
1	**10555**	Switch rod insulation complete for ¾" switch rod	10555
2	**10556**	Switch rod insulation complete for 1" switch rod	10556
3	**10551**	Steel splice plate	10551
4	**10552**	Fibre insulation plate	10552
5	**10553**	Fibre insulation bushing for ¾" switch rod	10553
6	**10554**	Fibre insulation bushing for 1" switch rod	10554
7		Bolt and nut for ¾" switch rod (¾"x3")	
8		Bolt and nut for 1" switch rod (¾"x3¼")	

WESTERN RAILROAD SUPPLY COMPANY

Continuous Insulated Rail Joint

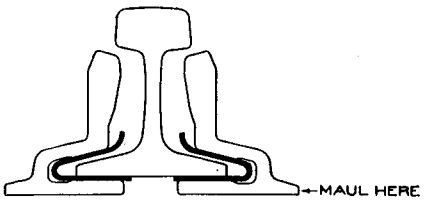
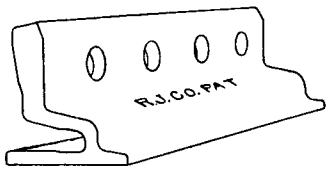


FIGURE 1



METAL JOINT BAR

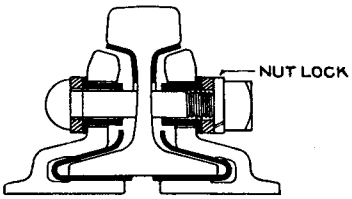
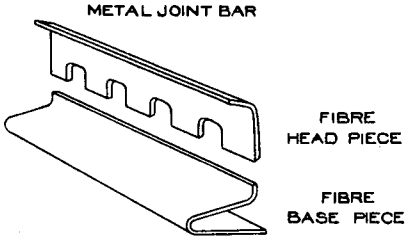


FIGURE 2



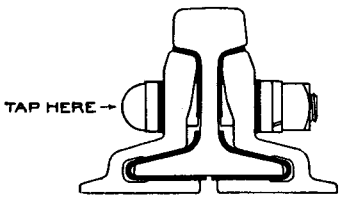
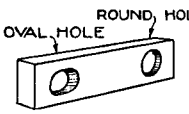


FIGURE 3



METAL WASHER PLATE

FIBRE WASHER PLATE

FIBRE BUSHING

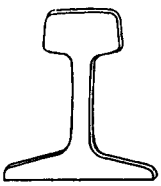
NUT LOCK

BUTTON-HEAD BOLT

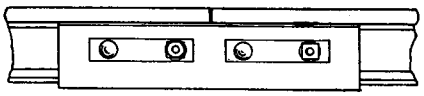
—NOTE—

IN ORDERING REPAIR PARTS, IF DRAWING NUMBERS CANNOT BE SPECIFIED, GIVE THE FOLLOWING DETAILS:

FIBRE HEAD PIECE, FIBRE BASE PIECE, FIBRE WASHER PLATE	Specify Weight, Section and Drilling of Rail.
METAL WASHER PLATE	Specify Weight, Section, Drilling of Rail and Diam. of Bolt.
FIBRE END POST	Specify Weight and Section of Rail
FIBRE BUSHING	Specify Weight and Section of Rail and Diameter of Bolt
BOLT	Specify Weight and Section of Rail, and Diam. of Bolt.



FIBRE END POST



OUTSIDE VIEW OF JOINT

NOTE: When ordering joints or parts specify Plate Number E330 and name, giving weight, section, and drilling of rail to facilitate prompt shipment. See note above.

WESTERN RAILROAD SUPPLY COMPANY

Weber Insulated Rail Joint

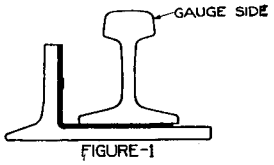


FIGURE-1

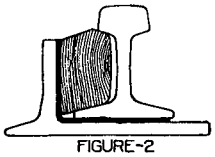


FIGURE-2

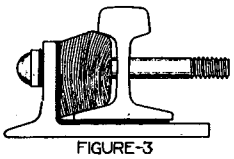


FIGURE-3

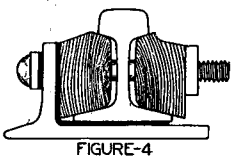


FIGURE-4

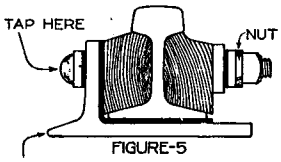
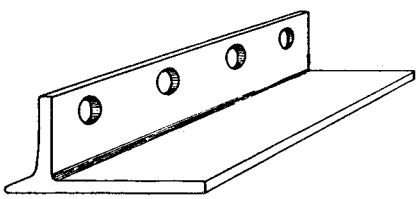
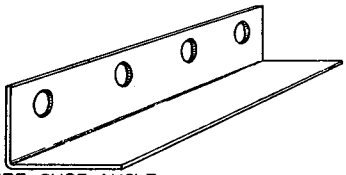
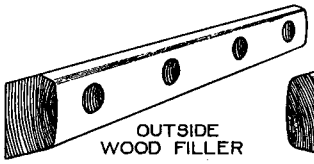
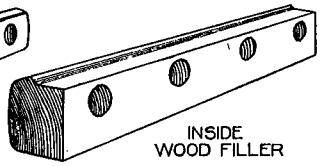


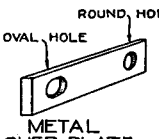
FIGURE-5
MAUL HERE


METAL SHOE ANGLE

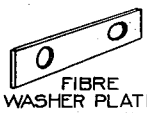

FIBRE SHOE ANGLE

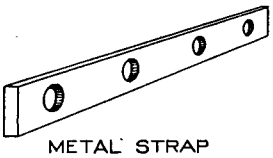

OUTSIDE WOOD FILLER


INSIDE WOOD FILLER

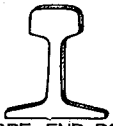


METAL WASHER PLATE


FIBRE WASHER PLATE


METAL STRAP

FIBRE BUSHING

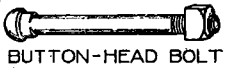

FIBRE END POST

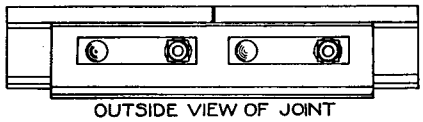
NUT LOCK

NOTE

IN ORDERING REPAIR PARTS, IF DRAWING NUMBERS CANNOT BE SPECIFIED, GIVE THE FOLLOWING DETAILS:

METAL SHOE ANGLE FIBRE SHOE ANGLE WOOD FILLERS (INSIDE, OUTSIDE OR PAIRS) METAL STRAP FIBRE WASHER PLATE	Specify Weight, Section and Drilling of Rail.
METAL WASHER PLATE	Specify Weight, Section and Drilling of Rail and Size of Bolt.
FIBRE END POST	Specify Weight & Section of Rail.
FIBRE BUSHING	Specify Weight & Section of Rail & Size of Bolt.
BOLT	Specify Weight & Section of Rail and Size of Bolt.


BUTTON-HEAD BOLT

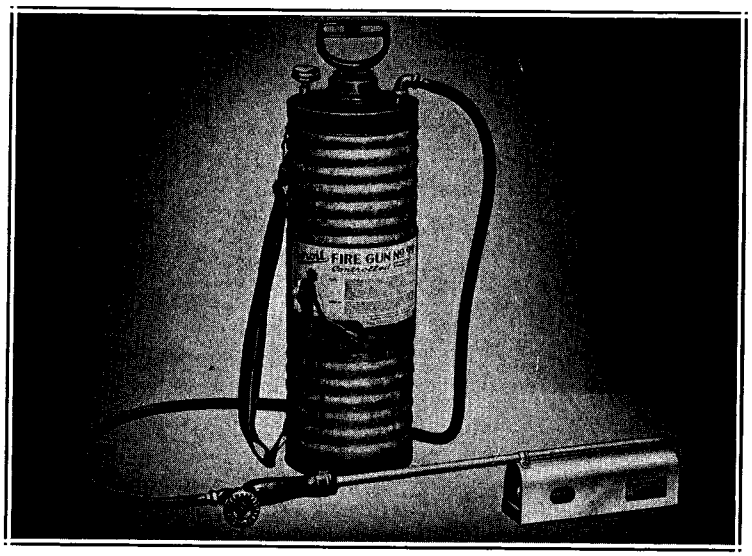

OUTSIDE VIEW OF JOINT

NOTE: When ordering joints or parts specify Plate Number E335 and name, giving weight, section, and drilling of rail to facilitate prompt shipment. See note above.

WESTERN RAILROAD SUPPLY COMPANY

No. 99 AEROIL Fire Gun

TEMPERATURE OF FLAME 2000° F.



A new powerful kerosene torch for thawing, heating, melting ice and snow, drying concrete for waterproofing, charring poles and fence posts, splitting rocks, thawing frozen scales, opening doors on frozen steel cars and hoppers, melting ice and snow out of concrete forms, thawing frozen pipes, preheating castings for welding, thawing out frozen culverts, thawing frozen switches, interlocking devices, conveyors, throw rods, cranks, trestles, ladders, platforms and all outdoor machinery, burning weeds along right-of-way, repairing holes in asphalt or concrete pavements, bonding rails, etc.

Includes a four gallon corrugated fuel and air tank, tested at 100 lbs. made of copper bearing, galvanized steel, equipped with a 2″ diameter air pump, snap-on shoulder strap, 7 ft. of special oil resisting rubber hose with brass hose nipples, and a new seamless steel coil Aeroil Burner with bronze regulating valve. Average Oil Consumption per hour, 1½ gallons.

ORDERING REFERENCE

Specify Plate Number E350, Reference Number, and Description

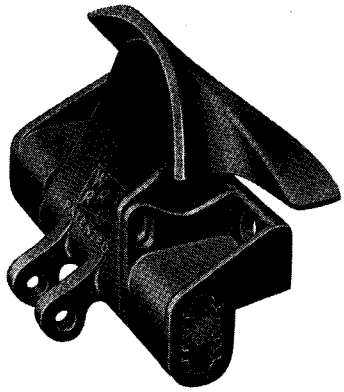
Ref. No.	Description
1	No. 99 AEROIL Fire Gun complete.
2	No. 99 AEROIL Burner and hose only

NOTE: Replacement part sheet on request.

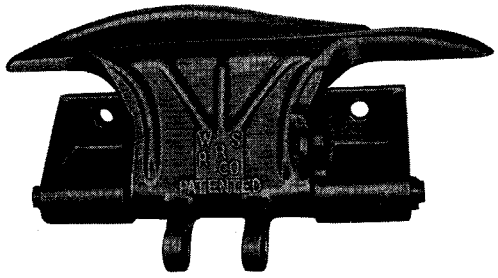
WESTERN RAILROAD SUPPLY COMPANY

Derailers

THE "CHICAGO" AND THE TYPE I



"Chicago" Derail



Type I Derail

The "Chicago" Derailer is composed of three parts—the head, the slotted hinge, and the key bolt. It is so constructed that it is adjustable in steps of $\frac{3}{16}$" so that it can be applied to any rail with a height of from 3⅞" to 5¾".

The Type I Derail is similar to the "Chicago" except that it is not adjustable but is furnished for 85 lb. rail only.

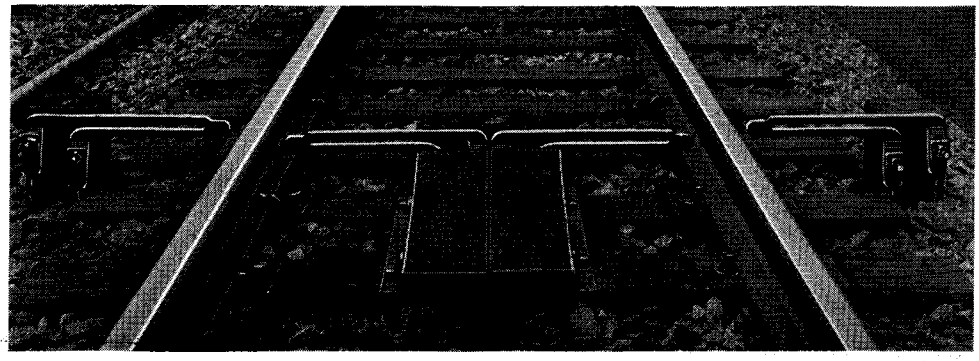
ORDERING REFERENCE

Specify Plate Number E352, Reference Number, and Description

Ref. No.	Description	Piece No.
1	"Chicago" Derailer complete for Left Hand Turnout	3796L
2	"Chicago" Derailer complete for Right Hand Turnout	3796R
3	Head only for Left Hand Turnout "Chicago" Derailer	3796–1
4	Head only for Right Hand Turnout "Chicago" Derailer	3796–2
5	Hinge only for "Chicago" Derailer	3796–3
6	Keybolt only for "Chicago" Derailer	3796–4
7	Type I Derailer complete for Left Hand Turnout	3797L
8	Type I Derailer complete for Right Hand Turnout	3797R
9	Head only for Left Hand Turnout Type I Derailer	3797–1
10	Head only for Right Hand Turnout Type I Derailer	3797–2
11	Hinge only for Type I Derailer	3797–3
12	Hinge pin only for Type I Derailer	3797–4

WESTERN RAILROAD SUPPLY COMPANY

Dragging Equipment Detector



The Dragging Equipment Detector is constructed of special brittle cast iron to insure breakage when struck by dragging or swinging equipment. The arms mount separately on individual timbers to minimize vibration caused by moving trains. Other types of mounting can be provided to meet particular specifications.

The Detector can be furnished complete with bolts, nuts, washers, etc., for mounting on timbers or can be supplied complete with timbers and ramp.

Connectors are furnished on the arm for either No. 6 or No. 9 Parkway Cable as specified.

The Ramp can be furnished constructed either of lumber or of malleable iron as specified. Malleable iron ramp will be furnished unless otherwise specified.

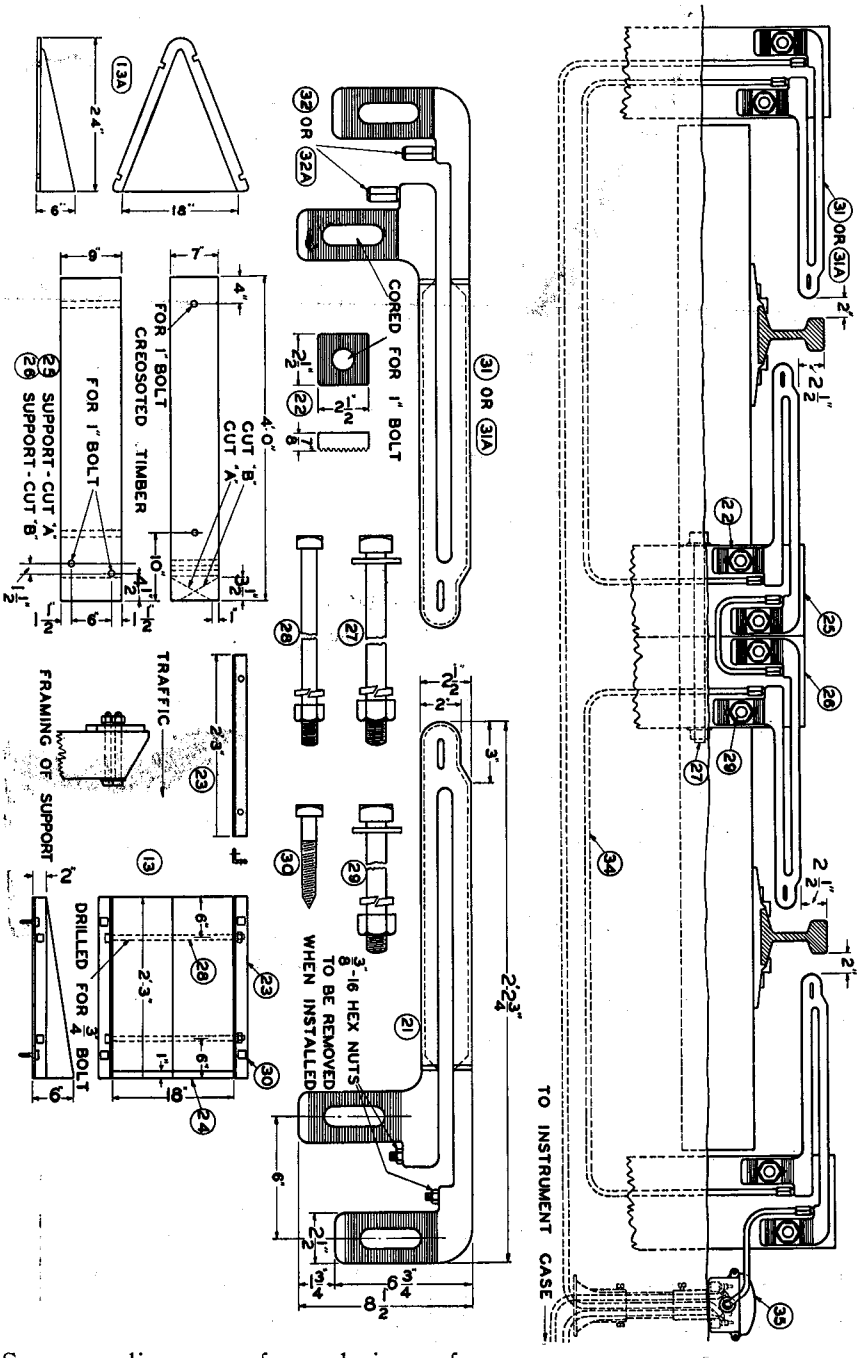
We suggest the use of Bootleg Plate E20 Ref. 32 in installations of the Dragging Equipment Detector.

ORDERING REFERENCE
Specify Plate Number E355, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Dragging Equipment Detector complete for use with No. 9 Parkway Cable (Includes 4 Item 31, 8 Item 22, 2 Item 25, 2 Item 26, 2 Item 27, 8 Item 29, and 1 Item 13 or 13A as specified)	5241–1
1a	Dragging Equipment Detector complete for use with No. 6 Parkway Cable (Includes the same as above but 4 Item 31A instead of 4 Item 31)	5241–1A
2	Dragging Equipment Detector complete for use with No. 9 Parkway Cable (Includes 4 Item 31, 8 Item 22, 2 Item 27, and 8 Item 29)	5241–2
2a	Dragging Equipment Detector complete for use with No. 6 Parkway Cable (Includes the same as above but 4 Item 31A instead of 4 Item 31)	5241–2A
	Replacement Parts	
13	Wooden ramp assembly complete	5241–13
13a	Malleable iron ramp complete with lag screws	5241–13A
21	Detector arm	5241–21
22	Washer plate	5241–22
23	Angle bar	5241–23
24	Wooden ramp only	5241–24
25	Arm support (Cut A)	5241–25
26	Arm support (Cut B)	5241–26
27	Through bolt for supports	5241–27
28	Through bolt for wooden ramp	5241–28
29	Through bolt for detector arm and support	5241–29
30	Lag screw	5241–30
31	Detector arm and connector complete for No. 9 Parkway Cable	5241–31
31a	Detector arm and connector complete for No. 6 Parkway Cable	5241–31A
32	Connector for No. 9 Parkway Cable	5241–32
32a	Connector for No. 6 Parkway Cable	5241–32A
34	No. 9 Parkway Cable (Specify length)	
34a	No. 6 Parkway Cable (Specify length)	
35	Bootleg (See Plate E20, Ref. 3)	1155–16

WESTERN RAILROAD SUPPLY COMPANY

Dragging Equipment Detector



See preceding page for ordering reference.

Lineman's Canvas Tool Bags

Equipped with Leather Handles, Sides and Bottom

Ref. Nos. 1—7.

Made of one piece No. 6 white duck, leather reinforced on four sides, steel frame and studs.

Can be equipped, when specified, with swivel to attach individual padlock, ordinary lock and key, inside pocket, frame with clasp, or shoulder strap, at slight additional cost.

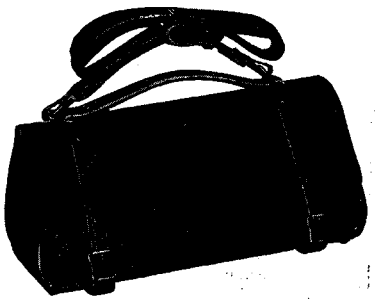
Ref. Nos. 8—10.

WESTERN UNION STANDARD

Same as 393 bags, except has handles with solid top and shaped ends, double riveted to both frame and canvas and securely sewn to the canvas. W. U. Standard is 20 inches long, but these bags can be furnished in 18 and 22-inch sizes, with the additional equipment specified.

Electrician's and Inspector's Tool Bags

Made from Selected Harness Leather



Ref. Nos. 11—15

Ref. Nos. 16—17

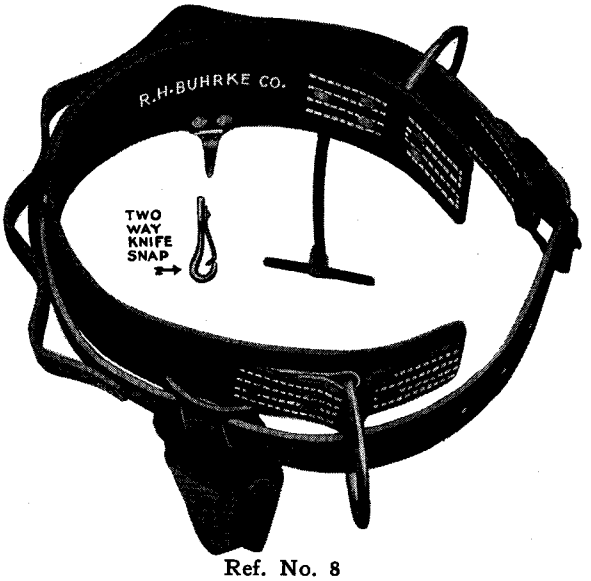
ORDERING REFERENCE

Specify Plate Number E370, Reference Number, and Description

Ref. No.	Description	Piece No.	Ref. No.	Description	Piece No.
1	Canvas Tool Bag, 12″ long...	393A	**10**	Canvas Tool Bag, 22″ long...	655B
2	Canvas Tool Bag, 14″ long...	393J	**11**	Leather Tool Bag, 16″ long...	393R
3	Canvas Tool Bag, 16″ long...	393E	**12**	Leather Tool Bag, 18″ long...	393U
4	Canvas Tool Bag, 18″ long...	393I	**13**	Leather Tool Bag, 20″ long...	393S
5	Canvas Tool Bag, 20″ long...	393	**14**	Leather Tool Bag, 22″ long...	393Y
6	Canvas Tool Bag, 22″ long...	393W	**15**	Leather Tool Bag, 24″ long...	393T
7	Canvas Tool Bag, 24″ long...	393H	**16**	Leather Tool Bag, 18x10x4″...	393C
8	Canvas Tool Bag, 18″ long...	655A	**17**	Leather Tool Bag, 18x11x4½″	393D
9	Canvas Tool Bag, 20″ long...	655			

Safety Belts and Straps

Ref. Nos. 1—5



Ref. No. 8
(Loose Layer Belt)

Ref. No. 6
(Nela Style)

Ref. No. 7
(Western Union Style)

Ref. No. 9
(Locomotive Safety Belt)

NOTE: When ordering belts please state if wanted for 38, 40, 42, 44, or 46-inch waist.

ORDERING REFERENCE
Specify Plate Number E372, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Safety Strap, with roller snaps, 1¾″x6′	385
2	Safety Strap, with plain snaps, 1¾″x6′	385R
3	Safety Strap, with swivel snaps, 1¾″x6′	385S
4	Safety Strap, with roller snaps, 2″x6′	386
5	Safety Strap, Double Tongue Buckle, heavy snaps, 2″x6′	386C
6	Safety Belt, Nela Style, 2½″ wide	383A
7	Safety Belt, Western Union Style, 2¾″ wide	383F
8	Loose Layer Safety Belt, Saddle 4″ wide, body strap 2″ wide	383H
9	Locomotive Safety Belt (Specify 2″, 2½″ or 3″ wide)	383J

Pole Climbers

Eastern Climbers

ORDERING REFERENCE
Specify Plate Number E375, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Eastern Climber (Specify length)	382

Climber Straps

Straps 1¼"x22"—Pads 4"x4"

ORDERING REFERENCE
Specify Plate Number E375, Reference Number, and Description

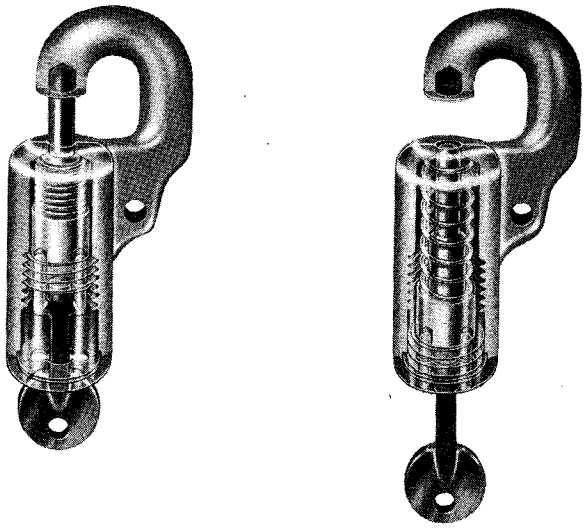
Ref. No.	Description	Piece No.
2	Four climber straps with two plain leather pads	382A
2a	Plain leather pad only	382G
3	Four climber straps with two sheep lined pads	382B
3a	Sheep lined pad only	382E
4	Four climber straps with two felt lined pads	382C
4a	Felt lined pad only	382F

Hand Lines

ORDERING REFERENCE
Specify Plate Number E375, Reference Number, and Description

Ref. No.	Description	Piece No.
5	½" Manila Rope Hand Line (Specify length)	500
6	⅝" Manila Rope Hand Line (Specify length)	625
7	¾" Manila Rope Hand Line (Specify length)	750

Type 351 McKeen Screw Lock



The McKeen Screwlock, as the illustration shows, differs from other screw locks in that the plunger has coarse threads and springs out after a few turns of the key whereas most screw locks require so many turns that either the men fail to turn the lock up tight or the key chains get snarled and twisted up before the lock can be turned up tightly.

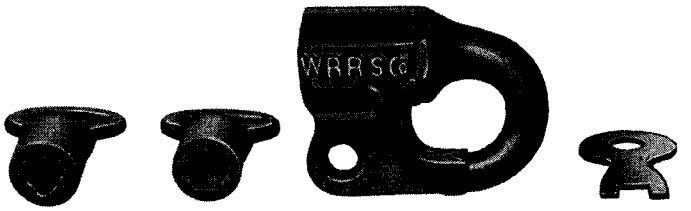
The lock is furnished of rust-resisting material, heavily constructed throughout to prevent breaking.

ORDERING REFERENCE
Specify Plate Number E379, Reference Number, and Description

Ref. No.	Description	Piece No.
1	McKeen Screwlock for Spanner Key	0151-3
2	Spanner Key for McKeen Screwlock	0151-12

WESTERN RAILROAD SUPPLY COMPANY

Type 147 Padlock



Triangular Key | A. A. R. Standard Hex Key | Padlock | Spanner Key

A heavily constructed padlock for use in protecting signaling equipment. The body is malleable iron. The Triangular and Hex Keys are furnished in cadmium-plated bronze. The Spanner Key is furnished in cadmium-plated sheet steel.

Three types of locks are available:

Padlock for A.A.R. Standard Hex Key.
Padlock for Spanner Key.
Padlock for Triangular Key.

ORDERING REFERENCE

Specify Plate Number E380, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 147 Padlock for A.A.R. Standard Hex Head Key	0147–1
2	Type 147 Padlock for Spanner Key	0147–3
3	Type 147 Padlock for Triangular Key	0147–2
4	Key for Type 147 Padlock A.A.R. Standard Hex	0147–14
5	Spanner Key for Type 147 Padlock	0147–13
6	Triangular Key for Type 147 Padlock	0147–10

For other padlocks see following page.

Padlocks

FOR EVERY RAILROAD PURPOSE

Padlocks are furnished all keyed alike or all differently-keyed as desired. Some styles can be master-keyed if desired. These locks cannot be jarred open. Specify quantity of keys desired.

No. 620 and 621 Padlocks

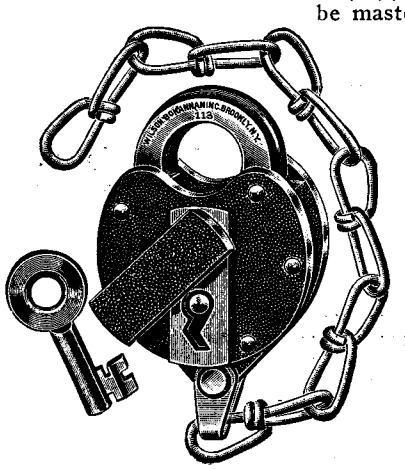
Genuine pin tumbler mechanism. Padlock of extruded brass. Shackle of case-hardened steel. No. 620, 1⅜". No. 621, 1¾".

No. 600, 601, and 602 Padlocks

Pin tumbler mechanism. Polished bronze interior parts. Rust-proof steel shackles locked at both ends. No. 600, 1½". No. 601, 1¾". No. 602, 2". May be master-keyed.

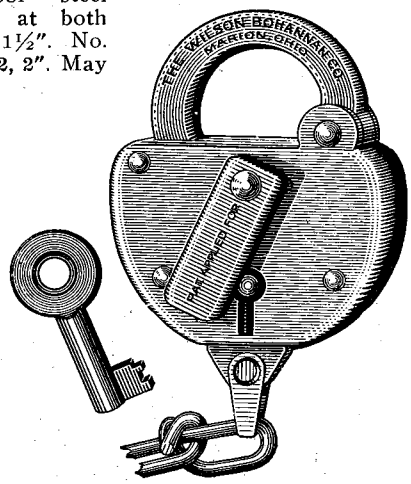
No. 640 Padlock

Similar to No. 620 but rectangular in shape. Bronze chains may be attached if specified.



No. 113 and 76 Padlocks

Heavy tumbler lock with polished spring shackle. Can be made with key-retaining device. Keys and shackle of solid bronze. Nine-inch chain unless otherwise specified. 240 possible key changes. No. 113, 2⅛". No. 76, 2".



No. 10 and 11 Padlocks

Nine-inch chain unless otherwise specified. Only regular key will unlock. When unlocked the shackle is held in full open position. 120 to 500 key changes. Master-keyed in 100 to 200 key changes. Can be furnished with special shackle to enter ½" hole. No. 10 has galvanized steel case. No. 11 has polished brass case. Size 3". Keyed to your standard switch key if sample is furnished with first order.

When ordering specify Plate Number E385, Number of Lock, and Description.

Memoranda

5M-37

PRINTING PRODUCTS CORPORATION—CHICAGO

Supplement 1
for
Catalog Section
E

WESTERN RAILROAD SUPPLY COMPANY

MANUFACTURERS

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Denver, Colo.
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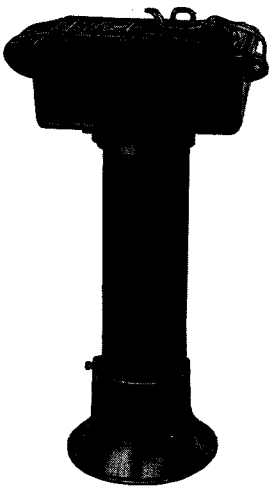
Cleveland, Ohio
Houston, Texas

Printed in U.S.A.

1941

WESTERN RAILROAD SUPPLY COMPANY

Type 1233 Bootleg



Type 1233 Bootleg consists of a terminal box 9⅜"x6¾"x3⅝" deep in which as many as 24 A.A.R. binding posts can be provided (either 12 No. 10565 A.A.R. Terminal Blocks or 2 Type 2506 Twelve Post Multiple Unit Terminal Strips) and a four inch inside diameter pipe riser. Overall height is 24 inches.

When required, a squeeze connector (specify size) will be mounted in one or two sides of the terminal box.

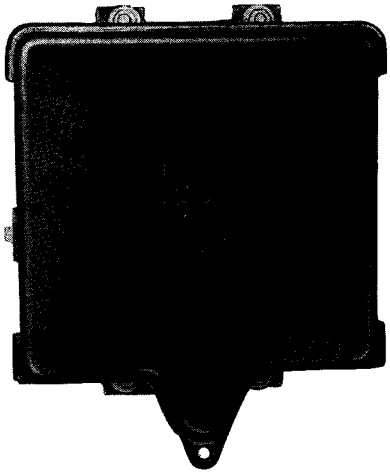
Standard assemblies call for 4 No. 10565 A.A.R. Terminal Blocks or 2 Type 2506 Twelve Post Multiple Unit Terminal Strips. Other combinations of terminals can be furnished if specified on order.

ORDERING REFERENCE
Specify Plate Number E31, Reference Number and Description

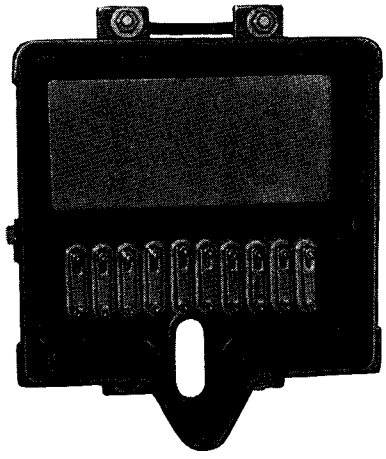
Ref. No.	Description	Piece No.
1	Type 1233 Bootleg with 4 No. 10565 A.A.R. Terminal Blocks	1233-4
2	Type 1233 Bootleg with 2 Type 2506 Twelve Post Multiple Unit Terminal Strips	1233-12

WESTERN RAILROAD SUPPLY COMPANY

Type 1270 Junction Box



WITH COVER IN PLACE



WITH COVER REMOVED

Type 1270 Junction Box is normally provided with 10 No. 10565 A.A.R. terminal blocks and a terminal board 6″x12″ in size for mounting resistance units or additional terminals.

A 4½″x2″ projection outlet is provided for bringing cable wires from the pipe pole into the box, and a ½″ standard pipe outlet is provided on both sides of the box.

Other combinations of terminals and outlets can be furnished if specified on order.

The box is provided with a slide cover which makes it ideal for use with cantilever type crossing signals where a ladder might interfere with the opening of a hinged-type door or cover.

Furnished with U-Bolts for 3½″, 4″ or 5″ I. D. pipe as specified.

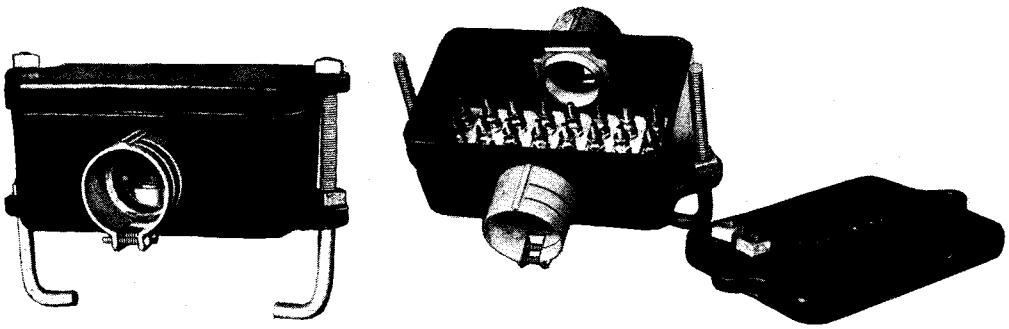
Inside Dimensions: 13½″ wide, 13″ high by 5″ deep.

ORDERING REFERENCE
Specify Plate Number E101, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1270 Junction Box for mounting on 3½″ I.D. pipe	1270-3
2	Type 1270 Junction Box for mounting on 4″ I.D. pipe	1270-4
3	Type 1270 Junction Box for mounting on 5″ I.D. pipe	1270-5
4	Cover only, for Type 1270 Junction Box	1270-2

WESTERN RAILROAD SUPPLY COMPANY

Type 1260 Terminal Box



The Type 1260 Terminal Box is arranged for mounting on flat surfaces. Mounting holes for ½" bolts are spaced on 10¼" centers. Anchor bolts as illustrated can be furnished. Inside measurements are 8⅜" long, 5⅜" wide and 3½" deep.

Assemblies can be made up with various arrangements of terminals and squeeze connectors.

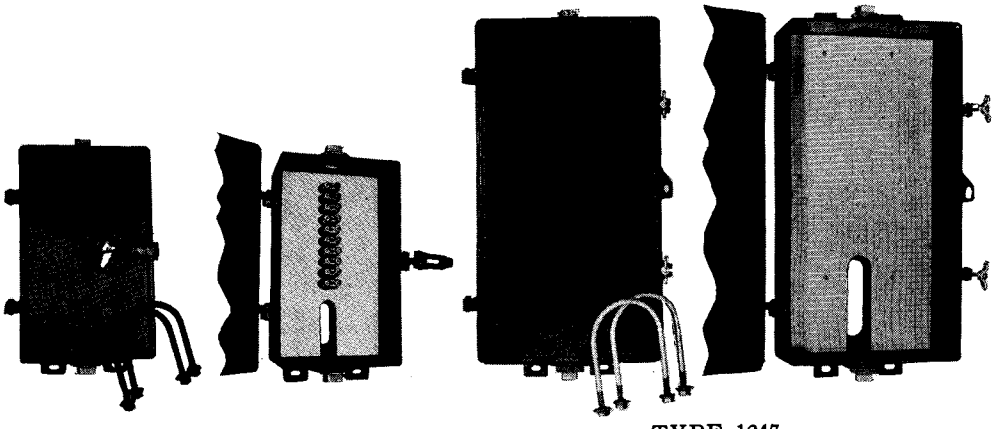
Note: If squeeze connectors are required, specify size.

ORDERING REFERENCE
Specify Plate Number E102, Reference Number and Description: Type 1260 Terminal Box

Ref. No.	Number of No. 10565 A.A.R. Terminals	Number of Squeeze Connectors	With or Without 2 Anchor Bolts	Piece No.
1	4	None	Without	1260-4
2	6	None	Without	1260-6
3	8	None	Without	1260-8
4	4	1	Without	1260-14
5	6	1	Without	1260-16
6	8	1	Without	1260-18
7	4	2	Without	1260-24
8	6	2	Without	1260-26
9	8	2	Without	1260-28
10	4	None	With	1260-104
11	6	None	With	1260-106
12	8	None	With	1260-108
13	4	1	With	1260-114
14	6	1	With	1260-116
15	8	1	With	1260-118
16	4	2	With	1260-124
17	6	2	With	1260-126
18	8	2	With	1260-128
19	Anchor bolt with nuts			1260-3

WESTERN RAILROAD SUPPLY COMPANY

Types 1246 and 1247 Junction Boxes



TYPE 1246 TYPE 1247

Type 1246 Junction Box is 10″ wide, 17⅝″ high and 4¾″ deep, inside measurements. The door is held firmly closed by a hasp and staple to which a padlock may be applied. The capacity of the box is 30 No. 10565 A.A.R. terminal blocks or 72 terminals of the multiple unit terminal strip type.

Type 1247 Junction Box is 14″ wide, 28″ high and 5½″ deep, inside measurements. The door is held secured by two large wing nuts and provision is made for padlocking. The capacity of the box is 60 No. 10565 A.A.R. terminal blocks or 120 terminals of the multiple unit terminal strip type.

Both types of boxes can be had with many variations in design such as different types of outlets at top and bottom and entrances into the pole. The standard assembly of each has a 2″ pipe plug top and bottom and a 4⅛″ by 1½″ projection outlet in the back near the bottom of the box for entrance into the pole. Boxes are complete with terminal board and "U" bolts for 4″ I.D. pipe unless otherwise specified.

These boxes are also furnished for mounting on a flat surface in which case the projection outlet in the back of the box is frequently omitted.

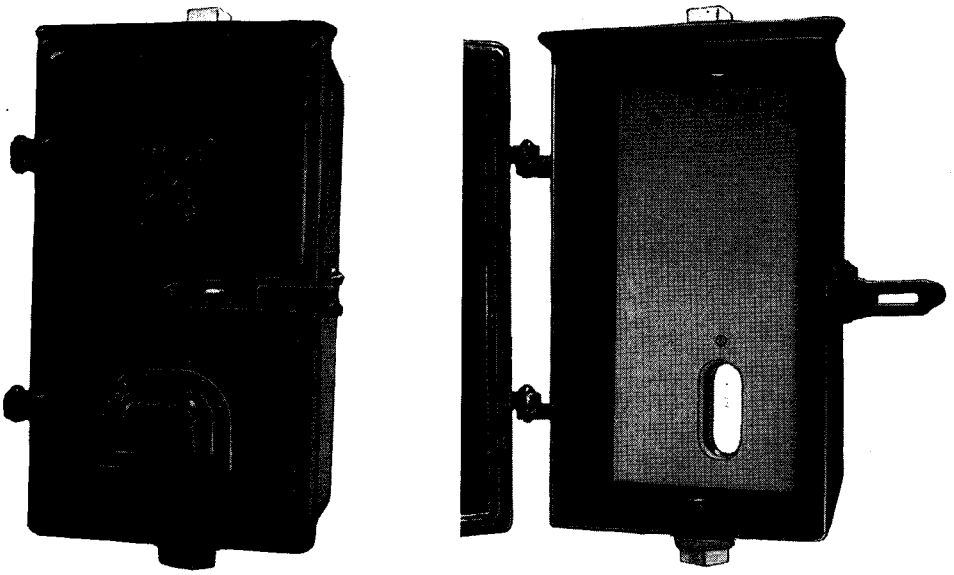
ORDERING REFERENCE

Specify Plate Number E126. Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1246 Junction Box with 2″ pipe plug at top and bottom and projection outlet at back, for mounting on pipe post (specify inside diameter of pipe post)	1246-30
2	Type 1246 Junction Box with 2″ pipe plug at top and bottom and projection outlet at back of box, for mounting on flat surface	1246-31
3	Type 1246 Junction Box with 2″ pipe plug at top and bottom but without projection outlet, for mounting on flat surface	1246-32
4	Type 1247 Junction Box with 2″ pipe plug at top and bottom and projection outlet at back, for mounting on pipe post (specify inside diameter of pipe post)	1247-30
5	Type 1247 Junction Box with 2″ pipe plug at top and bottom and projection outlet at back of box, for mounting on flat surface	1247-31
6	Type 1247 Junction Box with 2″ pipe plug at top and bottom but without projection outlet, for mounting on flat surface	1247-32

WESTERN RAILROAD SUPPLY COMPANY

Type 1226 Cast Iron Arrester and Junction Box



Type 1226 Cast Iron Arrester and Junction Box is 10″ wide by 17⅝″ high by 9″ deep (inside measurements). This box is especially desirable where apparatus bulkier than the usual terminals and lightning arresters may be required because this box is exceptionally deep.

A projection outlet is furnished in the back for running parkway cable into the box from the pipe mast on which the unit is mounted. This opening is approximately 4⅛″ high by 1½″ wide. A standard 2″ pipe plug is furnished at the top and another at the bottom of the box. A terminal board is mounted in the back.

ANY OTHER TYPES OF OUTLETS OR PIPE FITTINGS MAY BE FURNISHED IF SPECIFIED.

The box can be furnished for mounting on flat surface but unless otherwise specified will be furnished with U-Bolts for 4″ I.D. pipe.

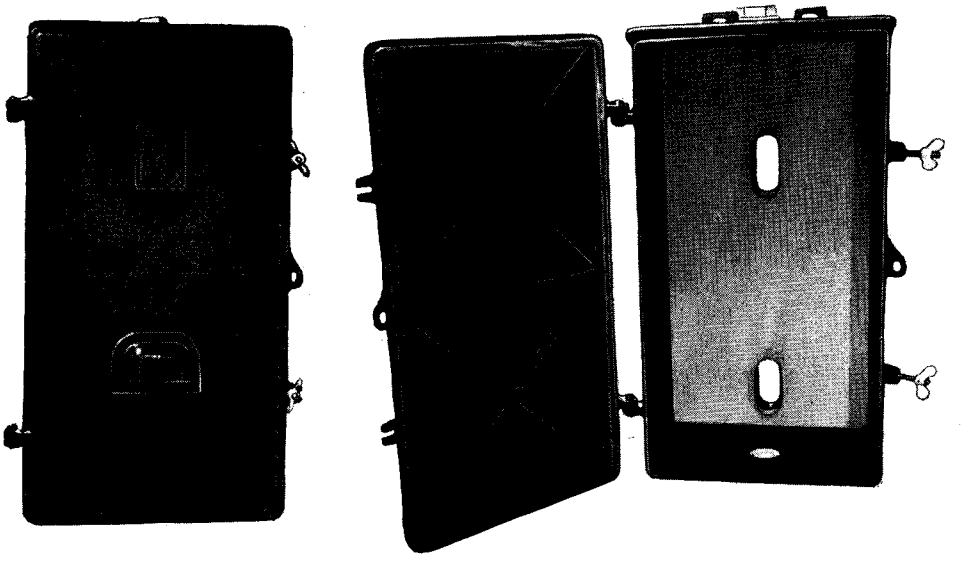
A ventilator is provided as well as means for locking with padlock or screw lock.

ORDERING REFERENCE
Specify Plate Number E127, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1226 Arrester and Junction Box with outlet in back, with 2″ pipe plugs at top and bottom, and with U-Bolts for 4″ I.D. pipe	1226-30
2	Type 1226 Arrester and Junction Box with outlet in back, with 2″ pipe plugs at top and bottom, and with bolts or screws (as specified) for flush mounting	1226-31
3	Type 1226 Arrester and Junction Box less outlet in back, with 2″ pipe plugs at top and bottom, and with bolts or screws (as specified) for flush mounting	1226-32

WESTERN RAILROAD SUPPLY COMPANY

Type 1227 Cast Iron Arrester and Junction Box



Type 1227 Cast Iron Arrester and Junction Box is 14″ wide by 28″ high by 9″ deep (inside measurements). This box is especially desirable where apparatus bulkier than the usual terminals and lightning arresters may be required because this box is exceptionally deep.

Two projection outlets are furnished in the back for running parkway cable into the box from the pipe mast on which the box is mounted. These openings are approximately 4⅛″ high by 1½″ wide. A standard 2″ pipe plug is furnished at the top and another at the bottom of the box. A terminal board is mounted in the back.

ANY OTHER TYPES OF OUTLETS OR PIPE FITTINGS MAY BE FURNISHED IF SPECIFIED.

The box can be furnished for mounting on flat surface but unless otherwise specified will be furnished with U-Bolts for 4″ I.D. pipe.

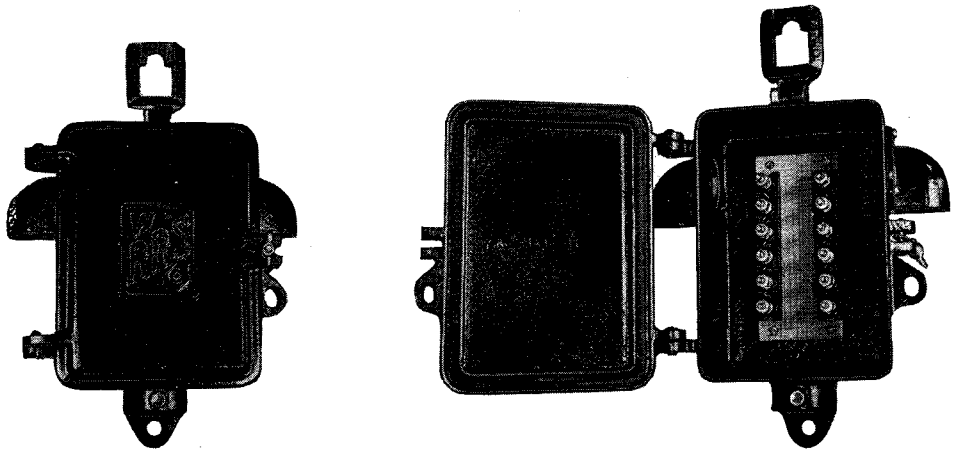
Ventilators are furnished as well as means for locking with padlock or screw lock.

ORDERING REFERENCE
Specify Plate Number E128, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1227 Arrester and Junction Box with outlets in back, with 2″ pipe plugs at top and bottom, and with U-Bolts for 4″ I.D. pipe	1227-30
2	Type 1227 Arrester and Junction Box with outlets in back, with 2″ pipe plugs at top and bottom, and with bolts or screws (as specified) for flush mounting	1227-31
3	Type 1227 Arrester and Junction Box less outlets in back, with 2″ pipe plugs at top and bottom, and with bolts or screws (as specified) for flush mounting	1227-32

WESTERN RAILROAD SUPPLY COMPANY

Type 1232 Pole Box



Type 1232 Pole Box measures 10″ high by 7″ wide by 4″ deep inside measurements. The assembly shown above is equipped with two A.A.R. 6 post multiple unit terminal strips for connections at the crossarm. An adjustable hanger is furnished at the top of the box for attachment to the through bolt on the crossarm. A 5/8″ diameter hole is provided in the projection at the bottom of the box to secure the box on the pole.

Squeeze clamps in the recess at the bottom of the box provide a secure fastening for cables from 3/4″ to 1 1/4″ outside diameter.

2″ dia. hooded openings for line wires in the sides of the box are protected with fibre bushings.

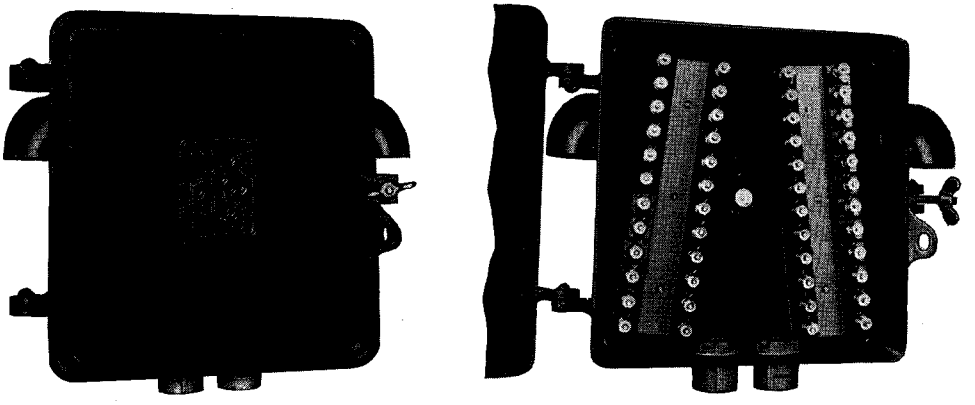
Terminal combinations other than those listed can be had if specified on order.

ORDERING REFERENCE
Specify Plate Number E135, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1232 Pole Box with two A.A.R. six-way multiple unit terminal strips (12 binding posts) *illustrated*	1232-53
2	Type 1232 Pole Box with one A.A.R. six-way multiple unit terminal strip (6 binding posts)	1232-51
3	Type 1232 Pole Box with wood backboard only (no terminals)	1232-50
4	Type 1232 Pole Box with eight No. 10565 A.A.R. 2 3/8″ center to center terminal blocks	1232-58

WESTERN RAILROAD SUPPLY COMPANY

Type 1236 Pole Box



Type 1236 Pole Box can be equipped with as many as 48 binding posts. A 7/8" hole is provided in the back of the box for through bolt mounting on 4" or larger diameter pipe or on wood poles.

Standard assembly, as illustrated above, includes four A.A.R. Type 1054 12 post multiple unit terminal strips, two 1¼" squeeze connectors and 2" dia. hooded outlets on the sides of the box with fibre protective bushings.

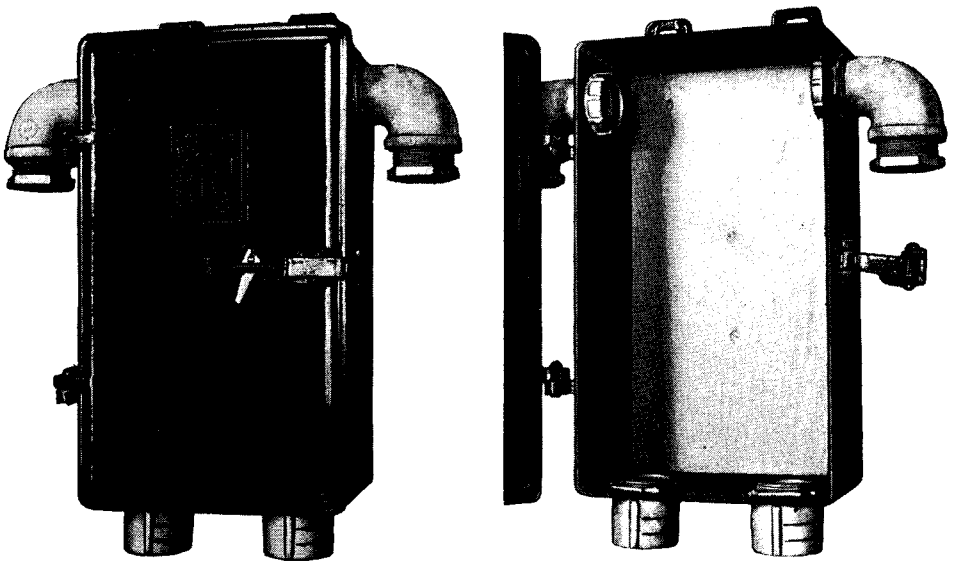
Inside dimensions: 13¼" high by 11¾" wide by 4" deep.

Terminal and squeeze connector combinations other than those listed can be had if specified on order.

ORDERING REFERENCE
Specify Plate Number E136, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1236 Pole Box with four A.A.R. twelve-way multiple unit terminal strips (48 binding posts) and two 1¼" squeeze connectors	1236-54
2	Type 1236 Pole Box with two A.A.R. twelve-way multiple unit terminal strips (24 binding posts) and one 1¼" squeeze connector	1236-52
3	Type 1236 Pole Box with wood backboards only (no terminals) and with two 1¼" squeeze connectors	1236-50
4	Type 1236 Pole Box with wood backboards only (no terminals) and with one 1¼" squeeze connector	1236-49

Type 1246 Pole Box



Type 1246 Pole Box is 10″ wide, 17⅝″ high and 4¾″ deep, inside measurements. It is designed for mounting on the pole by means of two ⅝″ through bolts or lag screws through straps at top and bottom. Line wires enter through 2″ street ells on sides of box as illustrated. Cable enters through one or two squeeze connectors. Unless otherwise specified squeeze connectors will be 2″.

The capacity of the Type 1246 Pole Box is 30 No. 10565 A.A.R. terminal blocks or 72 terminals of the multiple unit terminal strip type.

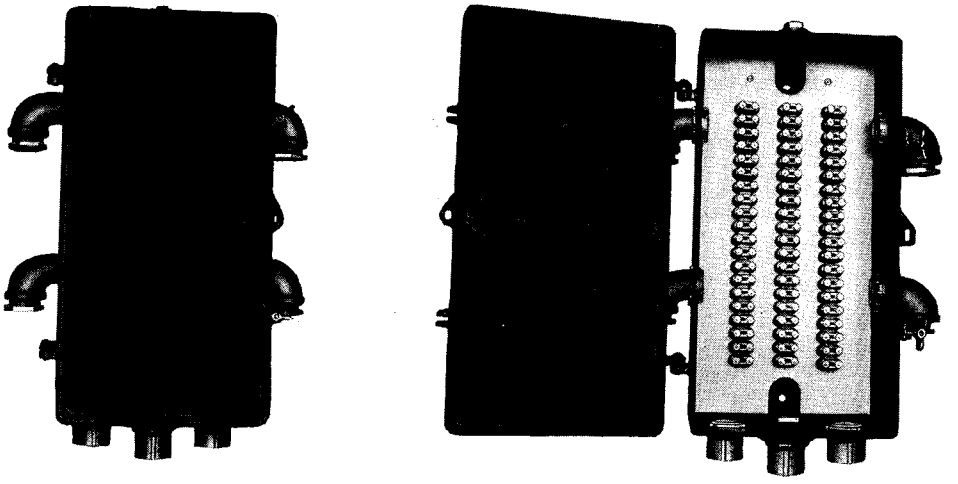
Terminal and outlet combinations other than those listed can be had if specified on order.

ORDERING REFERENCE
Specify Plate Number E137, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1246 Pole Box with 72 binding posts and two 2″ squeeze connectors	1246-61
2	Type 1246 Pole Box with 36 binding posts and one 2″ squeeze connector	1246-60
3	Type 1246 Pole Box with wood backboard (no terminals) and with two 2″ squeeze connectors	1246-59

WESTERN RAILROAD SUPPLY COMPANY

Type 1247 Pole Box



Type 1247 Pole Box is 14″ wide, 28″ high and 5½″ deep, inside measurements. It is designed for mounting on the pole by means of two ⅝″ through bolts or lag screws through the inside back of the box. Line wires enter through four 2″ street ells on sides of box as illustrated. Unless otherwise specified three 2″ squeeze connectors will be furnished.

The capacity of the Type 1247 Pole Box is 60 No. 10565 A.A.R. terminal blocks or 120 terminals of the multiple unit terminal strip type.

Terminal and outlet combinations other than those listed can be had if specified on order.

ORDERING REFERENCE
Specify Plate Number E138, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1247 Pole Box with 120 binding posts	1247-71
2	Type 1247 Pole Box with 60 binding posts	1247-70
3	Type 1247 Pole Box with wood backboard (no terminals)	1247-69

GEIS PRINTING CO., CHICAGO, 5M-41

Section
G
PART No. 1

Model 10
Highway Crossing Signal Assemblies

WESTERN RAILROAD SUPPLY COMPANY
MANUFACTURERS

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CHICAGO 8, ILLINOIS

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Printed in U. S. A.

Issue of 1950

SECTION G, PART NO. 1

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Stub Pole Assembly, Roadway Arm 39′ to 44′, with Sidewalk Arm.....G168
Model 10 Sidewalk Crossing Signal, Automatic Gate Assemblies..G180-G185
Detail Parts List.....G190
Special Flashing Light Arrangements.....Page 73
Suggested Roadway Gate Arm Light Spacing.....Page 74

Model 10 Signals

ASSEMBLIES

The Model 10 Signal assemblies, for which ordering reference data is given in this catalog section, are those most commonly used to meet the conditions encountered in the vast majority of locations. Special assemblies can be arranged to meet various unusual requirements. These may include extension brackets to position the flashing lights so as to project the light beams along side streets, or other necessary features required by the circumstances. Several of the special assemblies that have been supplied are illustrated on Page 73.

In standard Model 10 Signal assemblies the signs, flashing lights and mechanism are mounted on one 5 inch pipe mast with junction-box type base and a bell or pinnacle. Where cantilever type flashing light signals are required, the gate mechanism and gate arm are frequently mounted on a separate short mast located between the cantilever signal and the track, often on a common concrete foundation. However, where clearance does not permit this arrangement, assemblies with offset cantilever brackets are supplied as illustrated on Pages 60 and 61.

Our Engineering Department is at all times glad to cooperate in the design of special assemblies to meet unusual conditions. Given scale plans or details of a crossing, or crossings, where standard assemblies do not meet the requirements, we will furnish drawings illustrating the arrangement recommended.

MECHANISMS

Two types of mechanism are available for operation of roadway gate arms, as illustrated on Pages 6 and 7. The Type 3564 mechanism is provided in two forms: (1) Types 3564-71 or 3564-72, to operate the gate arm to the clear, 90°, position by power and from the clear to the horizontal position by gravity; (2) Types 3564-131 or 3564-132, to operate the gate arm to the clear, 90°, position by power and from the clear position to the 45° position, descending, by power and from the 45° position to the horizontal position by gravity. The characteristics and a full description of the Type 3564 mechanism will be found in Instruction Booklet Form 3564D-50, or later issue.

The Type 3566 mechanism is provided in one form but may be so connected to the control circuits as to operate the gate arm by power from the horizontal position to the clear, 90°, position and by gravity from the clear to the horizontal position, or so connected as to operate the gate arm to the

clear position by power, from the clear position to the 45° position, descending, by power and from the 45° position to the horizontal position by gravity. The characteristics and a full description of the Type 3566 mechanism will be found in Instruction Booklet Form 3566-50, or later issue.

Each of the above mechanisms may be had with one shaft for the operation of a roadway arm only or with two shafts for operation of both roadway and sidewalk arms.

All mechanisms are provided with auxiliary circuit controller contacts for indication of gate arm position, for flashing and gate arm light control, to stop the bell from ringing after the gate arm is down, etc.

A smaller Type 3561 mechanism for operation of a sidewalk arm only is also available. Assemblies as shown on Plate G185, using this mechanism, are often required, where the Model 10 Signals are equipped with sidewalk arms, to provide pedestrian protection of the "leaving" side of the track where no roadway arm is wanted.

The same gate arms and fittings are used with either Type 3564 or Type 3566 mechanism. The counterweight and gate support arms for roadway arms attach to the splined mechanism shaft. The sidewalk arm support casting, when used, attaches to a square shaft extending, normally, from the right or track side of the mechanism. This sidewalk arm operating shaft and internal actuating gear is supplied only when specified.

COUNTERWEIGHTING AND GATE ARM TORQUE

Whether or not the mechanism is of the powered-down type, the counterweights supplied with each Model 10 Signal are of proper weight to provide down torque required for proper operation of the gate arm from clear to horizontal position by gravity. The counterweights and mounting arrangement are so designed that they may be adjusted as required, without dismantling, to obtain proper horizontal and clear position torque values.

Proper counterweighting and torque values are essential elements of Model 10 Signal design. Recommended torque values based on experience, tests and calculations of wind resistance, for gate arms of various lengths, are given in tables in instruction booklets furnished with each mechanism.

GENERAL

Model 10 Signals meet, in every respect, the specifications and requirements of the Association of American Railroads, Signal Section, and of every

State having specifications or regulations applying to grade-crossing protection, as well as those of the Board of Transport Commissioners for Canada.

They are especially designed for automatic control by approaching trains and for manual supervision imposed upon automatic control, but are also well adapted to straight manual control.

Suggested circuits for the automatic control of Model 10 Signals are shown in the instruction booklets. These follow the principles and recommended practices of the Association of American Railroads, Signal Section, and embody the use only of relays and other devices meeting the specifications and requirements of that organization.

Contributing largely to the instant success of the automatic operation of the Model 10 Signal, when first introduced in June 1936, was the provision of a prewarning by flashing lights for a period of 3 to 5 seconds before the gate arm starts to descend and the slow, even descent of the gate arm to the horizontal position in a period of 10 to 15 seconds. Even when these signals are manually controlled this prewarning period is retained. This allows ample time for highway traffic to pass the gate after the lights start to flash, or to come to a stop before reaching the gate.

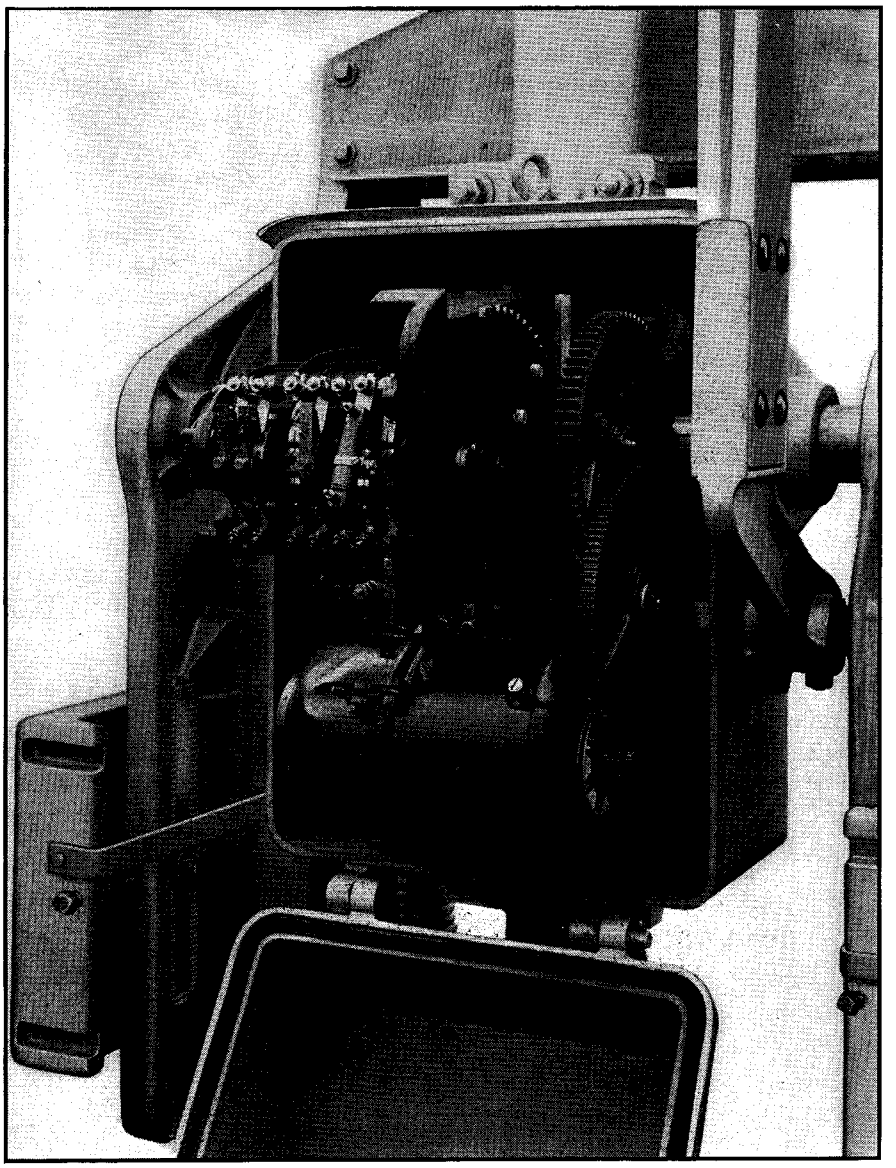
The three electric lights on the gate arm provide an arrestive, highly visible horizontal row of lights in the path of approaching highway vehicles. At all times when the gate arm is in a position to obstruct traffic the tip light burns steadily and the other two lights are caused to alternately flash in unison with the flashing lights on the signal mast.

Many variations from the typical circuits are used to meet local conditions, including timing circuits to adjust the warning period to the speed of approaching trains and thus to limit the time the gates would be down for slower trains. Circuits are frequently introduced to prevent obstruction of highway traffic by trains standing near the crossing, as occurs during station stops.

Assistance in the design of control circuits to meet special conditions will be gladly given by our Engineers, upon request.

Model 10 Signal Mechanism

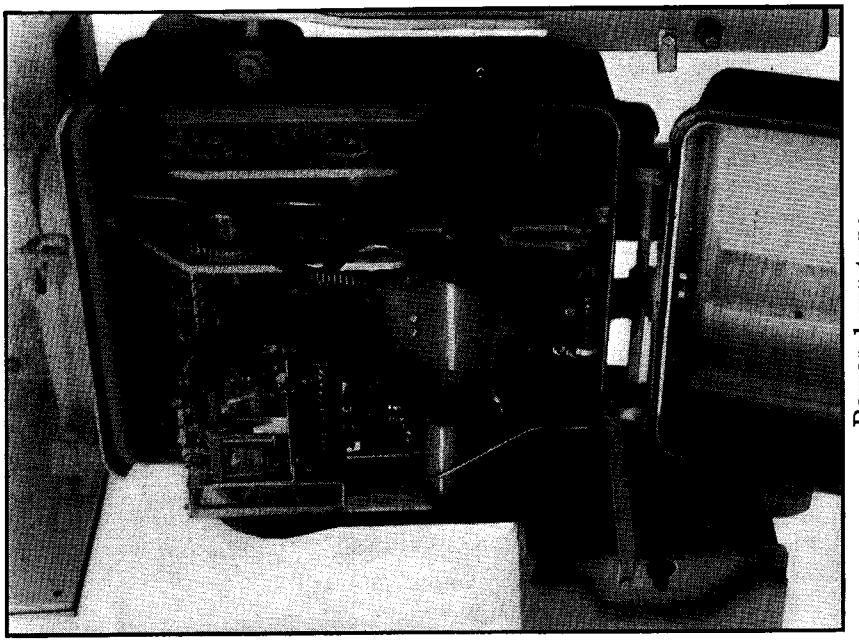
TYPE 3566



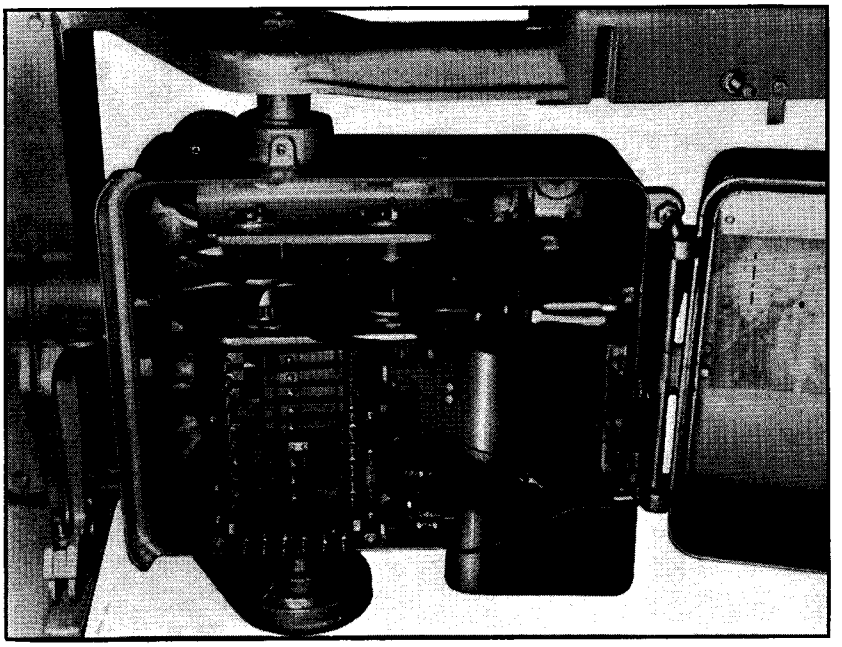
Mechanism with sidewalk arm shaft.

Model 10 Signal Mechanism

TYPE 3564



Power down type.



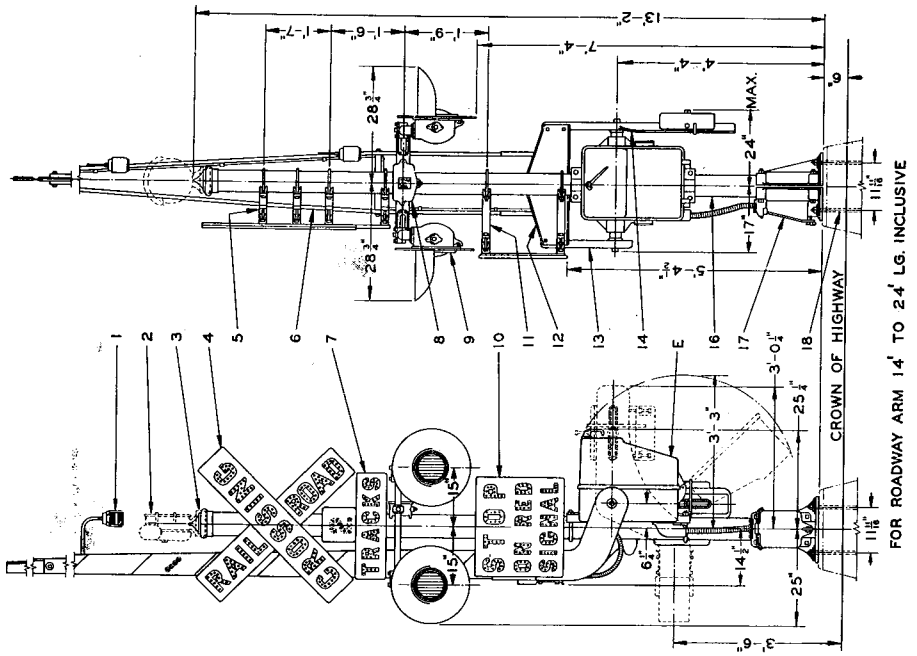
Gravity down type.

WESTERN RAILROAD SUPPLY COMPANY

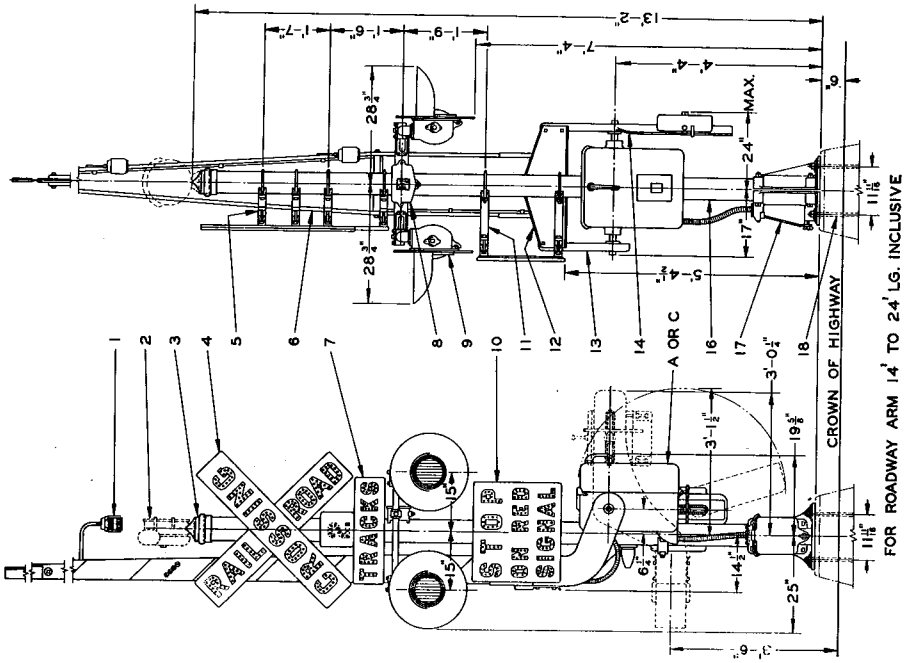
Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 14′ to 24′ Long



Type A-635, with Type 3566 Mechanism



Type A-524, with Type 3564 Mechanism

Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 14′ to 24′ Long

Type A-524 Type A-635

ORDERING REFERENCE

Specify Plate G150, Reference Number, Type and Description.

Description: Model 10 Highway Crossing Signal, Flashing Light and Automatic Gate Assembly.

Ref. No.	Type of Assembly	Type of Mechanism*	Type of Railroad Crossing Sign	Crossing Bell or Pinnacle
1	A-524	3564-71	Reflector	Crossing Bell
2	A-524	3564-71	Reflector	Pinnacle
3	A-524	3564-71	Cast Iron	Crossing Bell
4	A-524	3564-71	Cast Iron	Pinnacle
5	A-524	3564-131	Reflector	Crossing Bell
6	A-524	3564-131	Reflector	Pinnacle
7	A-524	3564-131	Cast Iron	Crossing Bell
8	A-524	3564-131	Cast Iron	Pinnacle
9	A-635	3566-121	Reflector	Crossing Bell
10	A-635	3566-121	Reflector	Pinnacle
11	A-635	3566-121	Cast Iron	Crossing Bell
12	A-635	3566-121	Cast Iron	Pinnacle

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).

(b) Numeral Required on "Number of Tracks" Sign.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.

10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.

Type 222FR Crossing Bell (Section B, Plate B-5) (When Required).

Type 950-201 Flashing Light Units (Section D, Plate D370).

"Stop on Red Signal" Sign.

No. 1585 Fresnel Lens Type Gate Light; unless No. 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.

Gate Light Spacing Per Page No. 74.

Note: When specified, mechanism can be furnished with sidewalk arm shaft having protecting cap over exposed end, should future use of sidewalk arm be contemplated.

* *See pages 3, 6 and 7.*

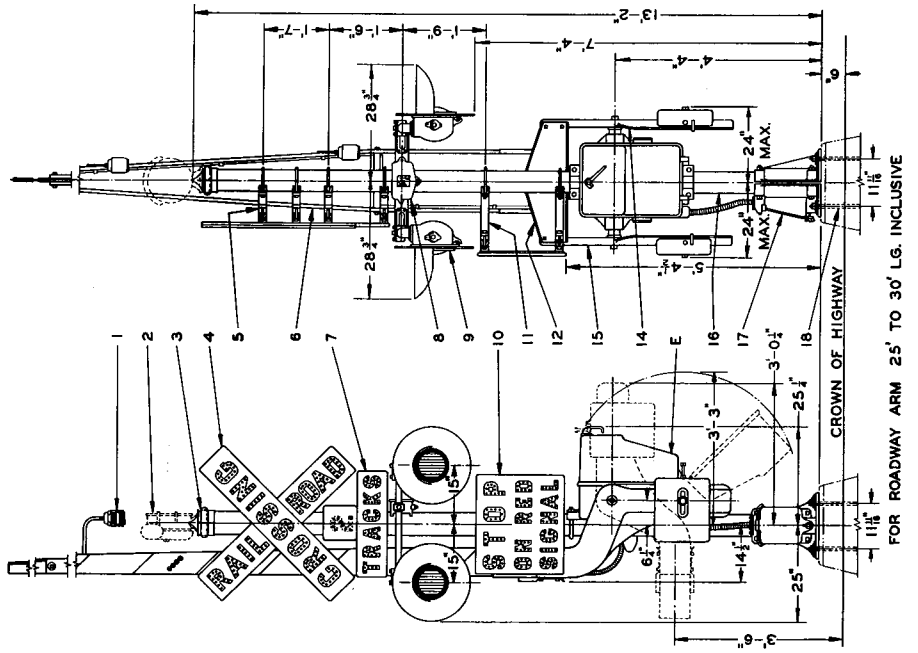
FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

WESTERN RAILROAD SUPPLY COMPANY

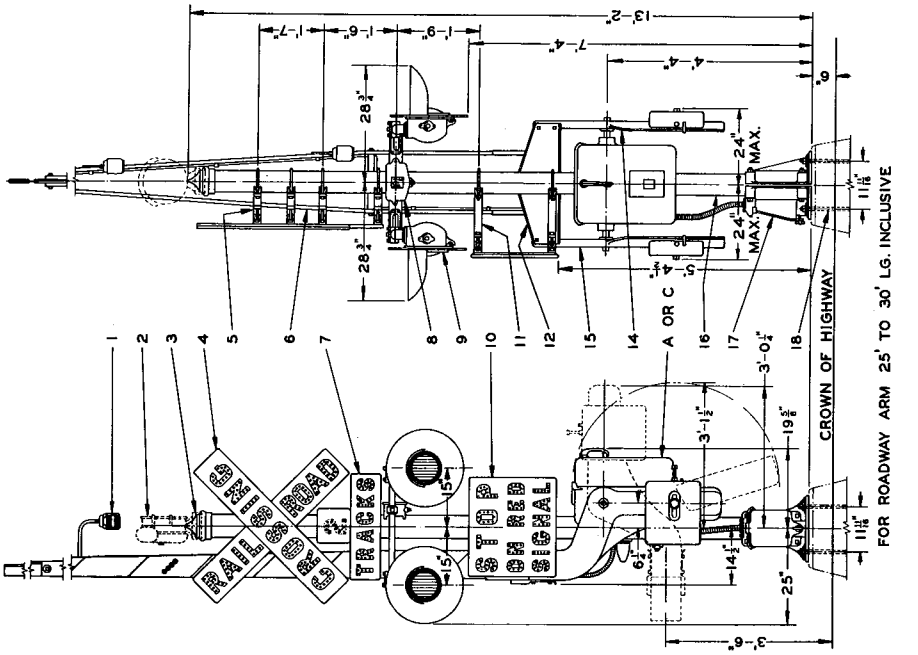
Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 25′ to 30′ Long



Type A-636, with Type 3566 Mechanism



Type A-525, with Type 3564 Mechanism

Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 25′ to 30′ Long

Type A-525 Type A-636

ORDERING REFERENCE

Specify Plate G151, Reference Number, Type and Description.

Description: Model 10 Highway Crossing Signal, Flashing Light and Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*	Type of Railroad Crossing Sign	Crossing Bell or Pinnacle
1	A-525	3564–71	Reflector	Crossing Bell
2	A-525	3564–71	Reflector	Pinnacle
3	A-525	3564–71	Cast Iron	Crossing Bell
4	A-525	3564–71	Cast Iron	Pinnacle
5	A-525	3564–131	Reflector	Crossing Bell
6	A-525	3564–131	Reflector	Pinnacle
7	A-525	3564–131	Cast Iron	Crossing Bell
8	A-525	3564–131	Cast Iron	Pinnacle
9	A-636	3566–121	Reflector	Crossing Bell
10	A-636	3566–121	Reflector	Pinnacle
11	A-636	3566–121	Cast Iron	Crossing Bell
12	A-636	3566–121	Cast Iron	Pinnacle

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).
(b) Numeral Required on "Number of Tracks" Sign.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
Type 222 FR Crossing Bell (Section B, Plate B-5) (When Required).
Type 950-201 Flashing Light Units (Section D, Plate D370).
"Stop on Red Signal" Sign.
No. 1585 Fresnel Lens Type Gate Light; unless No. 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

Note: When specified, mechanism can be furnished with sidewalk arm shaft having protecting cap over exposed end, should future use of sidewalk arm be contemplated.

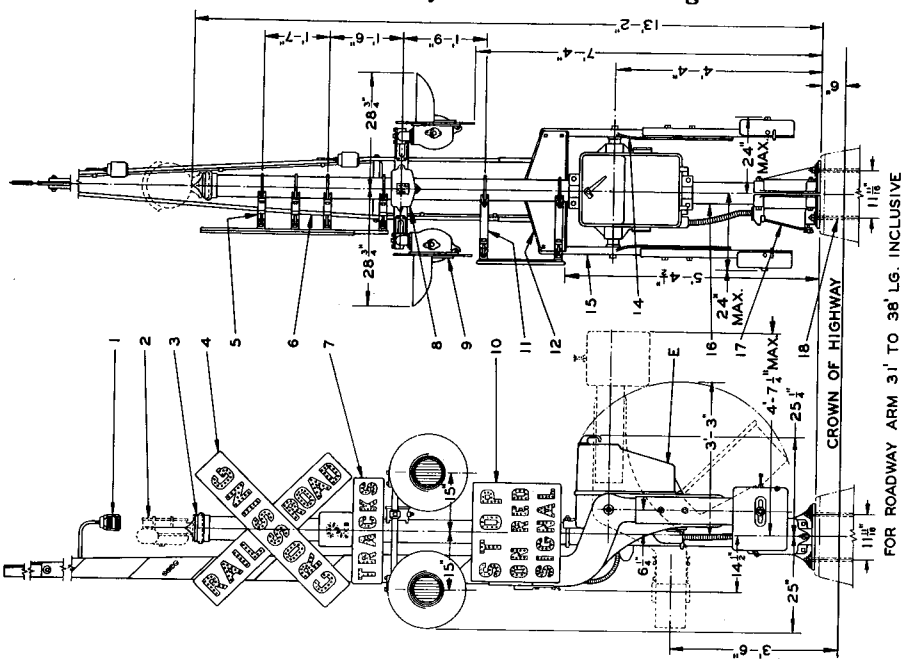
* *See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

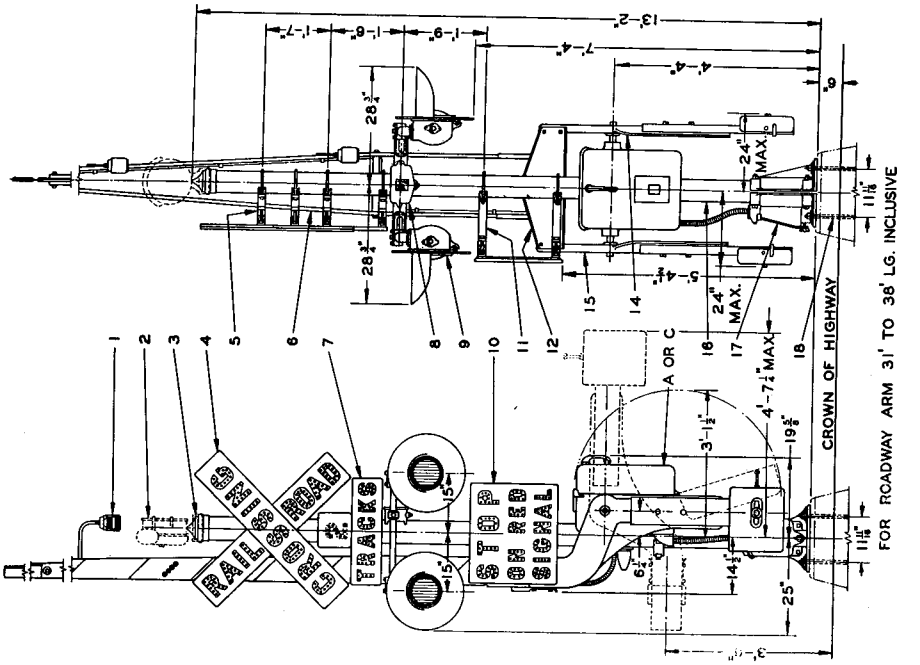
Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 31′ to 38′ Long



Type A-636A, with Type 3566 Mechanism



Type A-525A, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 31′ to 38′ Long

Type A-525A Type A-636A

ORDERING REFERENCE

Specify Plate G-152, Reference Number, Type and Description.

Description: Model 10 Highway Crossing Signal, Flashing Light and Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*	Type of Railroad Crossing Sign	Crossing Bell or Pinnacle
1	A-525A	3564-71	Reflector	Crossing Bell
2	A-525A	3564-71	Reflector	Pinnacle
3	A-525A	3564-71	Cast Iron	Crossing Bell
4	A-525A	3564-71	Cast Iron	Pinnacle
5	A-525A	3564-131	Reflector	Crossing Bell
6	A-525A	3564-131	Reflector	Pinnacle
7	A-525A	3564-131	Cast Iron	Crossing Bell
8	A-525A	3564-131	Cast Iron	Pinnacle
9	A-636A	3566-121	Reflector	Crossing Bell
10	A-636A	3566-121	Reflector	Pinnacle
11	A-636A	3566-121	Cast Iron	Crossing Bell
12	A-636A	3566-121	Cast Iron	Pinnacle

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).
(b) Numeral Required on "Number of Tracks" Sign.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
Type 222FR Crossing Bell (Section B, Plate B-5) (When Required).
Type 950-201 Flashing Light Units (Section D, Plate D370).
"Stop on Red Signal" Sign.
No. 1585 Fresnel Lens Type Gate Light; unless No. 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

Note: When specified, mechanism can be furnished with sidewalk arm shaft having protecting cap over exposed end, should future use of sidewalk arm be contemplated.

* *See pages 3, 6 and 7.*

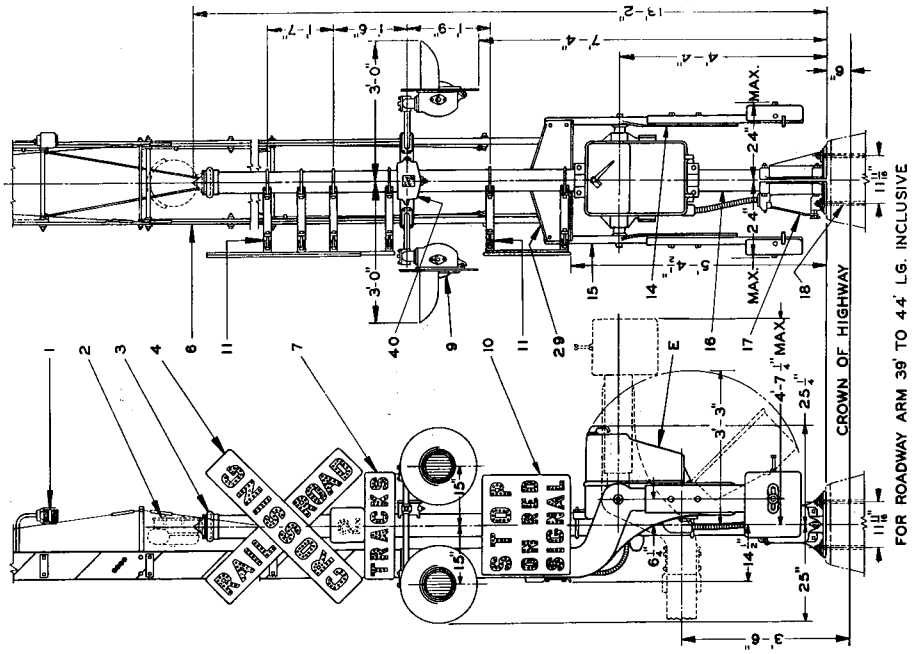
FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

WESTERN RAILROAD SUPPLY COMPANY

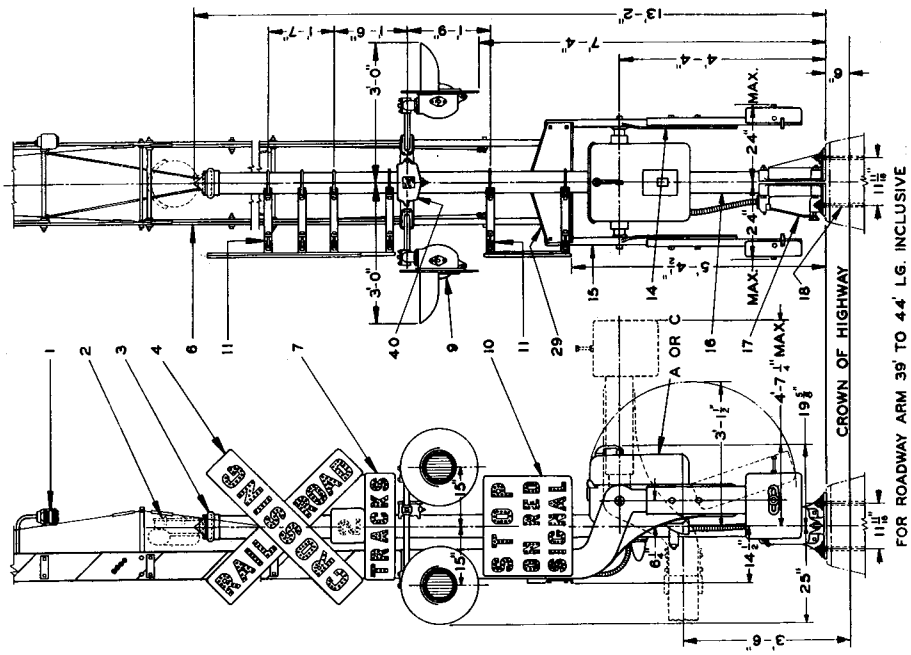
Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 39′ to 44′ Long



Type A-636B, with Type 3566 Mechanism



Type A-525B, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 39′ to 44′ Long

Type A-525B Type A-636B

ORDERING REFERENCE

Specify Plate G153, Reference Number, Type and Description.

Description: Model 10 Highway Crossing Signal, Flashing Light and Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*	Type of Railroad Crossing Sign	Crossing Bell or Pinnacle
1	A-525B	3564-71	Reflector	Crossing Bell
2	A-525B	3564-71	Reflector	Pinnacle
3	A-525B	3564-71	Cast Iron	Crossing Bell
4	A-525B	3564-71	Cast Iron	Pinnacle
5	A-525B	3564-131	Reflector	Crossing Bell
6	A-525B	3564-131	Reflector	Pinnacle
7	A-525B	3564-131	Cast Iron	Crossing Bell
8	A-525B	3564-131	Cast Iron	Pinnacle
9	A-636B	3566-121	Reflector	Crossing Bell
10	A-636B	3566-121	Reflector	Pinnacle
11	A-636B	3566-121	Cast Iron	Crossing Bell
12	A-636B	3566-121	Cast Iron	Pinnacle

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).
(b) Numeral Required on "Number of Tracks" Sign.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
Type 222FR Crossing Bell (Section B, Plate B-5) (When Required).
Type 950-201 Flashing Light Units (Section D, Plate D370).
"Stop on Red Signal" Sign.
No. 1585 Fresnel Lens Type Gate Light; unless No. 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

Note: When specified, mechanism can be furnished with sidewalk arm shaft having protecting cap over exposed end, should future use of sidewalk arm be contemplated.

* *See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

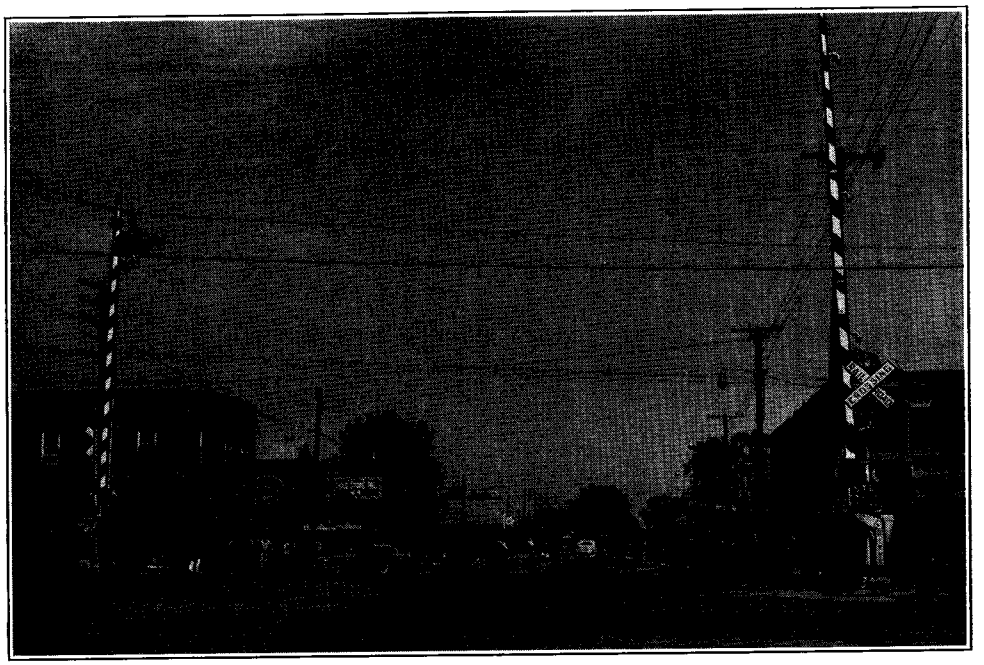
Information Desired With Inquiry For Complete Model 10 Signal Installation

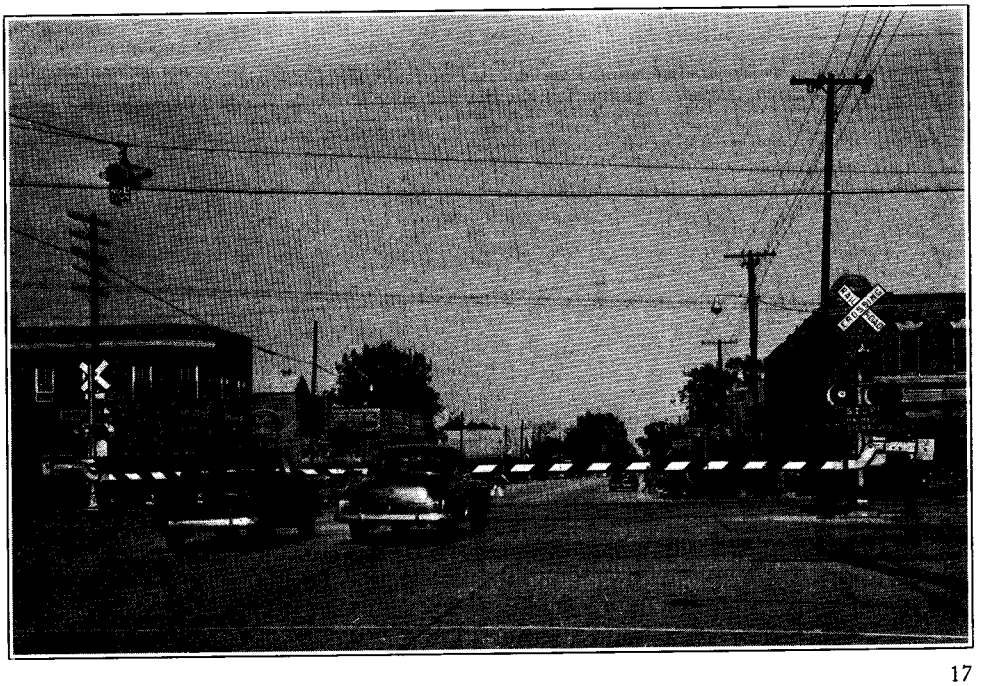
As stated in the preceding pages, we are pleased to furnish engineering information and to quote on all materials required for installations of Model 10 Signals. Where possible, inquiries should be accompanied by a sketch or scale track plan showing location of highway.

The following information is especially desired:

1. Width of roadway or length of roadway gate arm required.
2. If sidewalk arm is required, length thereof.
3. Length of approach track circuit required each side of highway to provide 20 seconds warning for fastest train, or information as to speeds of trains operated over the crossing.
4. If for double track road, specify if protection shall be provided for reverse traffic.
5. What special operating conditions exist within the area?
6. Details of any switches within the approach sections.
7. Circuits of any signaling now in place which will be affected by the installation of crossing protection.
8. Whether steam and diesel or electric propulsion railroad.
9. What electric power is available at crossing?
10. Weight and type of rail, whether four or six hole splice bars and rail drilling.
11. Type of track ballast (rock, gravel, cinders or other material).
12. Type of highway surface or pavement.
13. If electric propulsion railway, specify what propulsion voltage is used and whether A.C. or D.C. If A.C., specify frequency.
14. If electric propulsion railway, state the normal and maximum return current in rails.
15. If electric propulsion railway, specify if single rail or two rail track circuits are preferred.
16. Whether spare space on pole line is available for extending electric power to ends of track circuits.

Model 10 Signals With Roadway Arms Over 31 Feet In Length



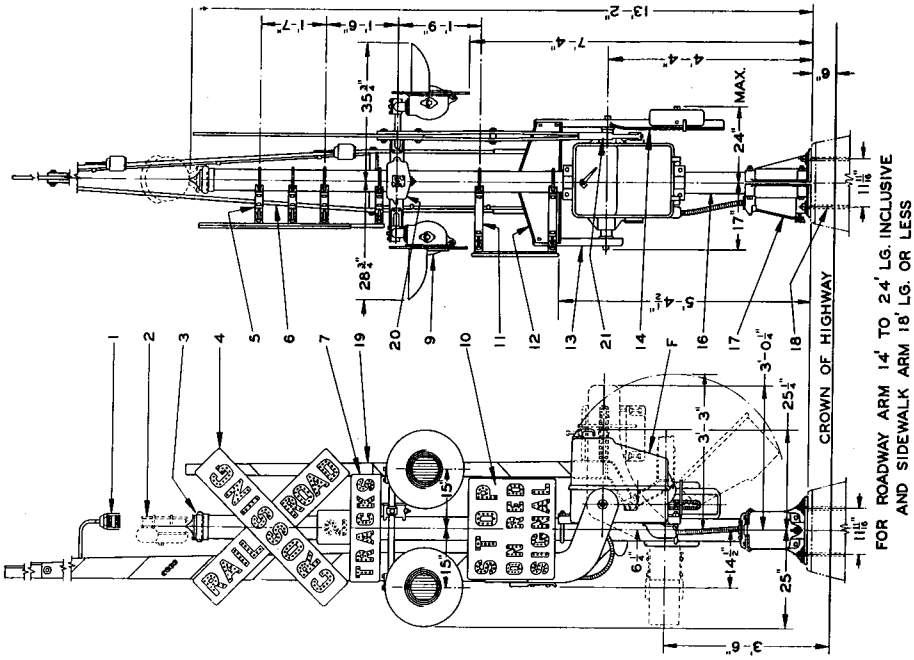


WESTERN RAILROAD SUPPLY COMPANY

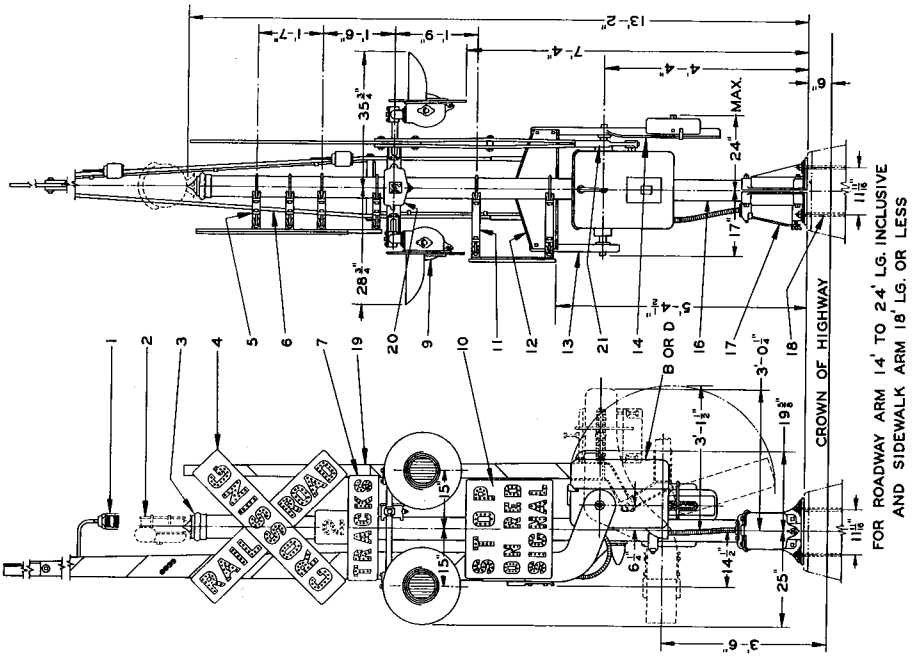
Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 14′ to 24′ Long
and Sidewalk Arm 18′ Long or Less



Type A-637, with Type 3566 Mechanism



Type A-539, with Type 3564 Mechanism

Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 14′ to 24′ Long and Sidewalk Arm 18′ Long or Less

Type A-539 Type A-637

ORDERING REFRENCE

Specify Plate G155, Reference Number, Type and Description.

Description: Model 10 Highway Crossing Signal, Flashing Light and Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*	Type of Railroad Crossing Sign	Crossing Bell or Pinnacle
1	A-539	3564–72	Reflector	Crossing Bell
2	A-539	3564–72	Reflector	Pinnacle
3	A-539	3564–72	Cast Iron	Crossing Bell
4	A-539	3564–72	Cast Iron	Pinnacle
5	A-539	3564–132	Reflector	Crossing Bell
6	A-539	3564–132	Reflector	Pinnacle
7	A-539	3564–132	Cast Iron	Crossing Bell
8	A-539	3564–132	Cast Iron	Pinnacle
9	A-637	3566–122	Reflector	Crossing Bell
10	A-637	3566–122	Reflector	Pinnacle
11	A-637	3566–122	Cast Iron	Crossing Bell
12	A-637	3566–122	Cast Iron	Pinnacle

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).
(b) Numeral Required on "Number of Tracks" Sign.
(c) Length of Sidewalk Arm (Tip of Arm to Center of Mast).

Note: Sidewalk arm will be furnished with one or more gate lights, if specified.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
Type 222FR Crossing Bell (Section B, Plate B-5) (When Required).
Type 950-201 Flashing Light Units (Section D, Plate D370).
"Stop on Red Signal" Sign.
No. 1585 Fresnel Lens Type Gate Light; unless No. 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

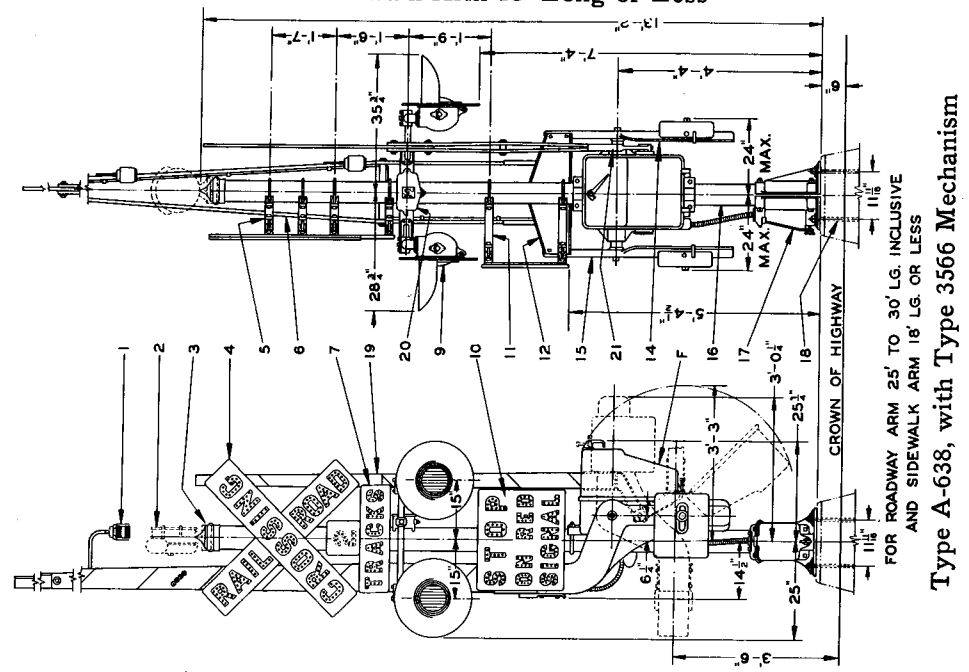
** See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

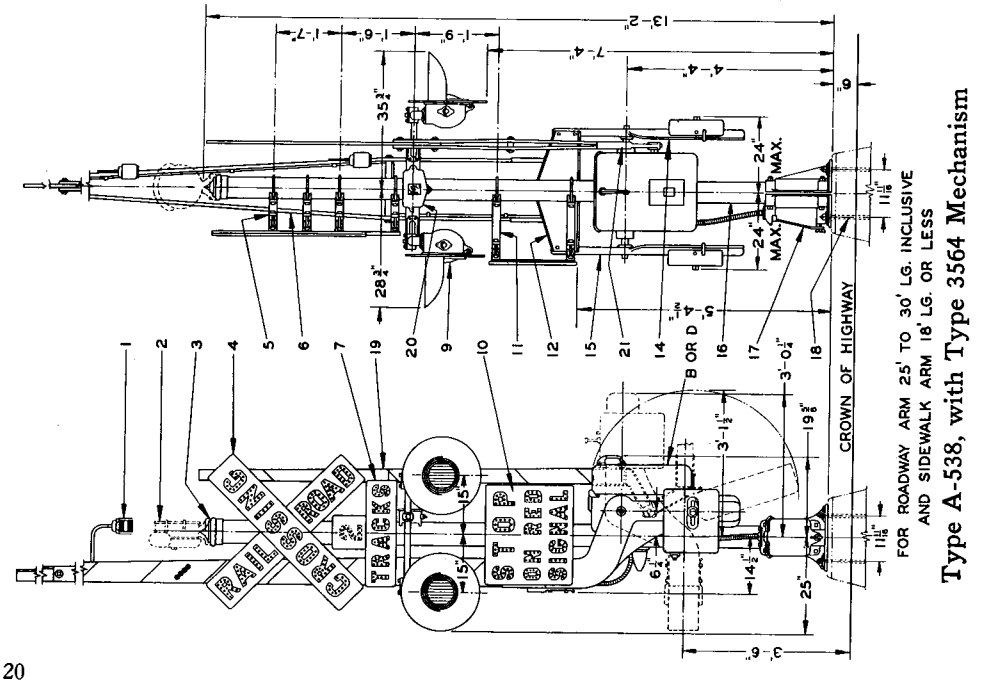
Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 25′ to 30′ Long
and Sidewalk Arm 18′ Long or Less



Type A-638, with Type 3566 Mechanism



Type A-538, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 25′ to 30′ Long
and Sidewalk Arm 18′ Long or Less

Type A-538 Type A-638

ORDERING REFERENCE

Specify Plate G156, Reference Number, Type and Description.

Description: Model 10 Highway Crossing Signal, Flashing Light and Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*	Type of Railroad Crossing Sign	Crossing Bell or Pinnacle
1	A-538	3564-72	Reflector	Crossing Bell
2	A-538	3564-72	Reflector	Pinnacle
3	A-538	3564-72	Cast Iron	Crossing Bell
4	A-538	3564-72	Cast Iron	Pinnacle
5	A-538	3564-132	Reflector	Crossing Bell
6	A-538	3564-132	Reflector	Pinnacle
7	A-538	3564-132	Cast Iron	Crossing Bell
8	A-538	3564-132	Cast Iron	Pinnacle
9	A-638	3566-122	Reflector	Crossing Bell
10	A-638	3566-122	Reflector	Pinnacle
11	A-638	3566-122	Cast Iron	Crossing Bell
12	A-638	3566-122	Cast Iron	Pinnacle

SPECIFY THE FOLLOWING—

(a) Length of Road Arm (Tip of Arm to Center of Mast).
(b) Numeral Required on "Number of Tracks" Sign.
(c) Length of Sidewalk Arm (Tip of Arm to Center of Mast).

Note: Sidewalk arm will be furnished with one or more gate lights, if specified.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
Type 222FR Crossing Bell (Section B, Plate B-5) (When Required).
Type 950-201 Flashing Light Units (Section D, Plate D370).
"Stop on Red Signal" Sign.
No. 1585 Fresnel Lens Type Gate Light; unless No. 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

* *See pages 3, 6 and 7.*

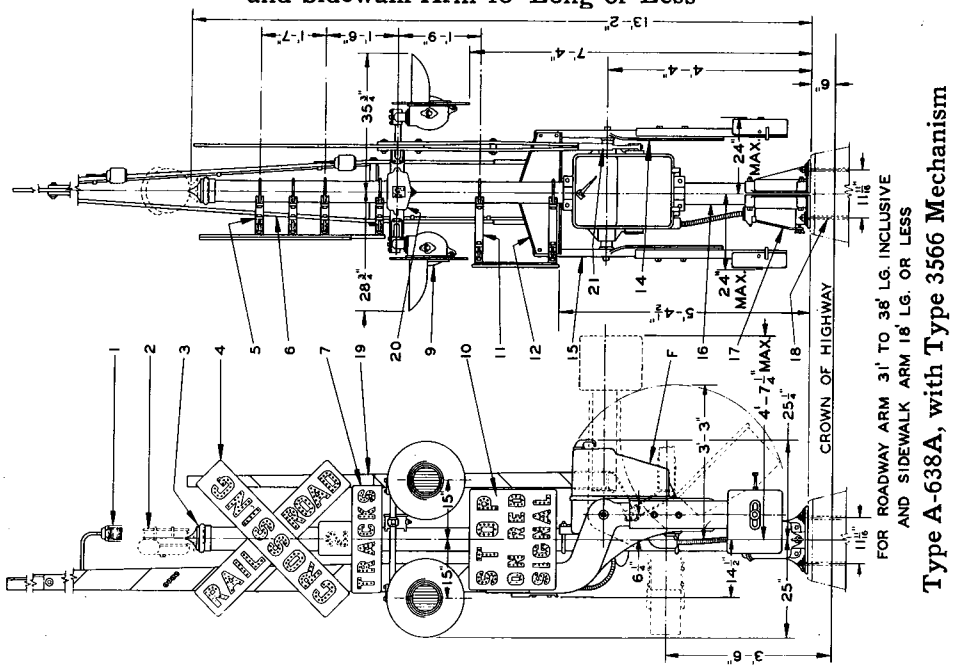
FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

WESTERN RAILROAD SUPPLY COMPANY

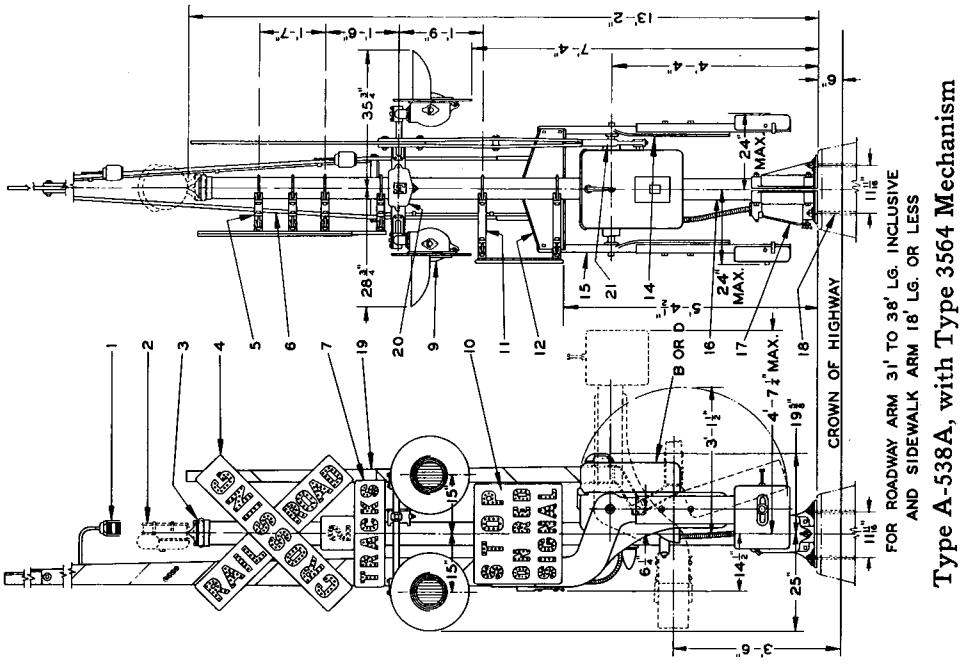
Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 31′ to 38′ Long
and Sidewalk Arm 18′ Long or Less



Type A-638A, with Type 3566 Mechanism



Type A-538A, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 31′ to 38′ Long
and Sidewalk Arm 18′ Long or Less

Type A-538A Type A-638A

ORDERING REFERENCE

Specify Plate G157, Reference Number, Type and Description.

Description: Model 10 Highway Crossing Signal, Flashing Light and Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*	Type of Railroad Crossing Sign	Crossing Bell or Pinnacle
1	A-538A	3564–72	Reflector	Crossing Bell
2	A-538A	3564–72	Reflector	Pinnacle
3	A-538A	3564–72	Cast Iron	Crossing Bell
4	A-538A	3564–72	Cast Iron	Pinnacle
5	A-538A	3564–132	Reflector	Crossing Bell
6	A-538A	3564–132	Reflector	Pinnacle
7	A-538A	3564–132	Cast Iron	Crossing Bell
8	A-538A	3564–132	Cast Iron	Pinnacle
9	A-638A	3566–122	Reflector	Crossing Bell
10	A-638A	3566–122	Reflector	Pinnacle
11	A-638A	3566–122	Cast Iron	Crossing Bell
12	A-638A	3566–122	Cast Iron	Pinnacle

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).
(b) Numeral Required on "Number of Tracks" Sign.
(c) Length of Sidewalk Arm (Tip of Arm to Center of Mast).

Note: Sidewalk arm will be furnished with one or more gate lights, if specified.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
Type 222FR Crossing Bell (Section B, Plate B-5) (When Required).
Type 950-201 Flashing Light Units (Section D, Plate D370).
"Stop on Red Signal" Sign.
No. 1585 Fresnel Lens Type Gate Light; unless No. 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

* *See pages 3, 6 and 7.*

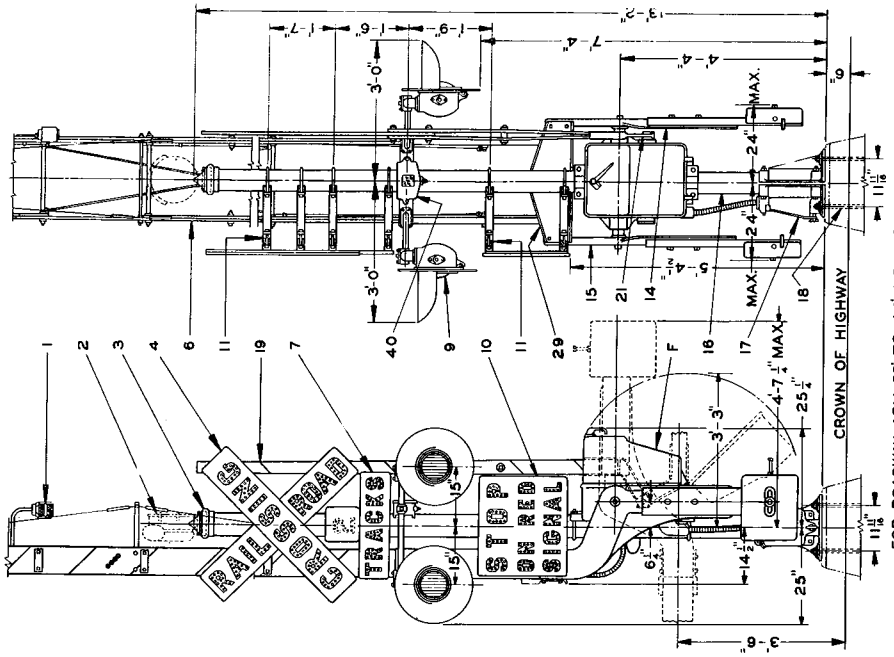
FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

WESTERN RAILROAD SUPPLY COMPANY

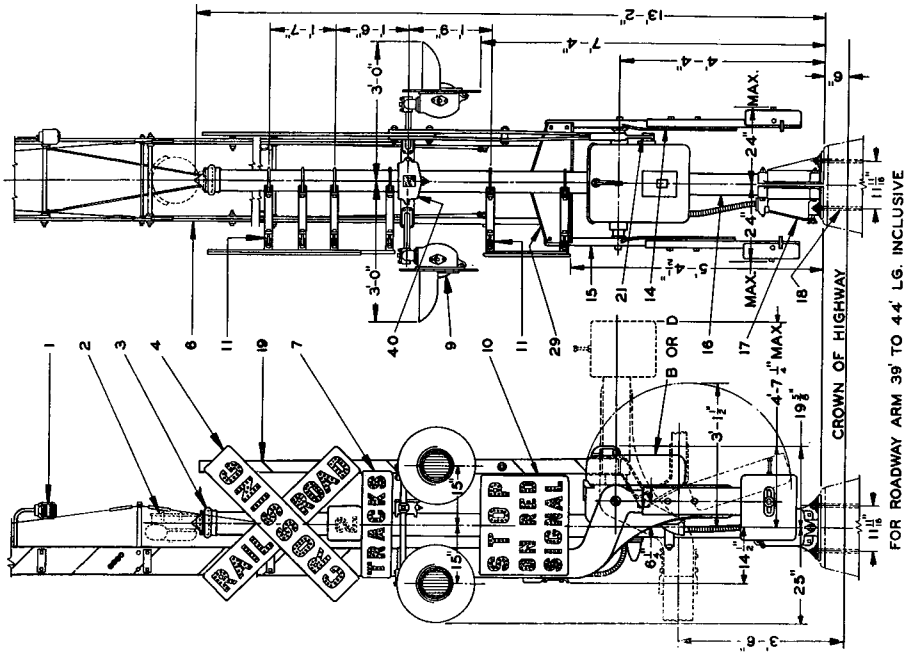
Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 39′ to 44′ Long
and Sidewalk Arm 18′ Long or Less



Type A-638B, with Type 3566 Mechanism



Type A-538B, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 39′ to 44′ Long
and Sidewalk Arm 18′ Long or Less

Type A-538B Type A-638B

ORDERING REFERENCE

Specify Plate G158, Reference Number, Type and Description.

Description: Model 10 Highway Crossing Signal, Flashing Light and Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*	Type of Railroad Crossing Sign	Crossing Bell or Pinnacle
1	A-538B	3564–72	Reflector	Crossing Bell
2	A-538B	3564–72	Reflector	Pinnacle
3	A-538B	3564–72	Cast Iron	Crossing Bell
4	A-538B	3564–72	Cast Iron	Pinnacle
5	A-538B	3564–132	Reflector	Crossing Bell
6	A-538B	3564–132	Reflector	Pinnacle
7	A-538B	3564–132	Cast Iron	Crossing Bell
8	A-538B	3564–132	Cast Iron	Pinnacle
9	A-638B	3566–122	Reflector	Crossing Bell
10	A-638B	3566–122	Reflector	Pinnacle
11	A-638B	3566–122	Cast Iron	Crossing Bell
12	A-638B	3566–122	Cast Iron	Pinnacle

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).
(b) Numeral Required on "Number of Tracks" Sign.
(c) Length of Sidewalk Arm (Tip of Arm to Center of Mast).

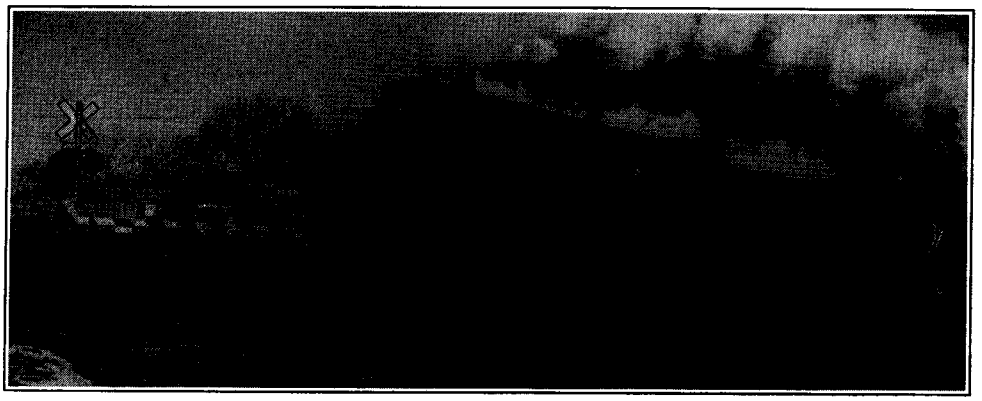
Note: Sidewalk arm will be furnished with one or more gate lights, if specified.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
Type 222FR Crossing Bell (Section B, Plate B-5) (When Required).
Type 950-201 Flashing Light Units (Section D, Plate D370).
"Stop on Red Signal" Sign.
No. 1585 Fresnel Lens Type Gate Lights; unless No. 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

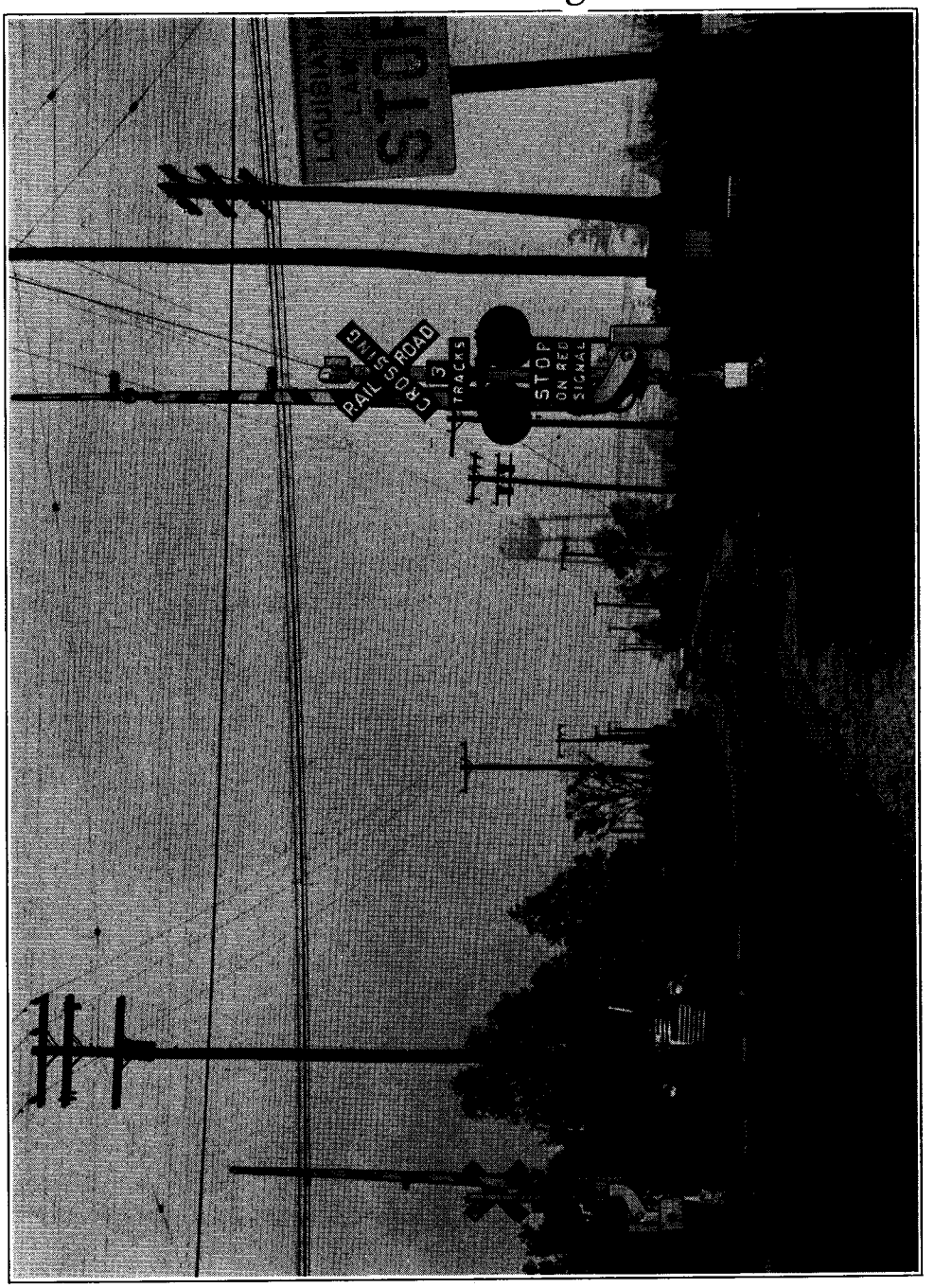
* *See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190



MEMORANDA

Typical Installation of Model 10 Signals With Roadway Arm Only, Not Exceeding 24 Feet in Length



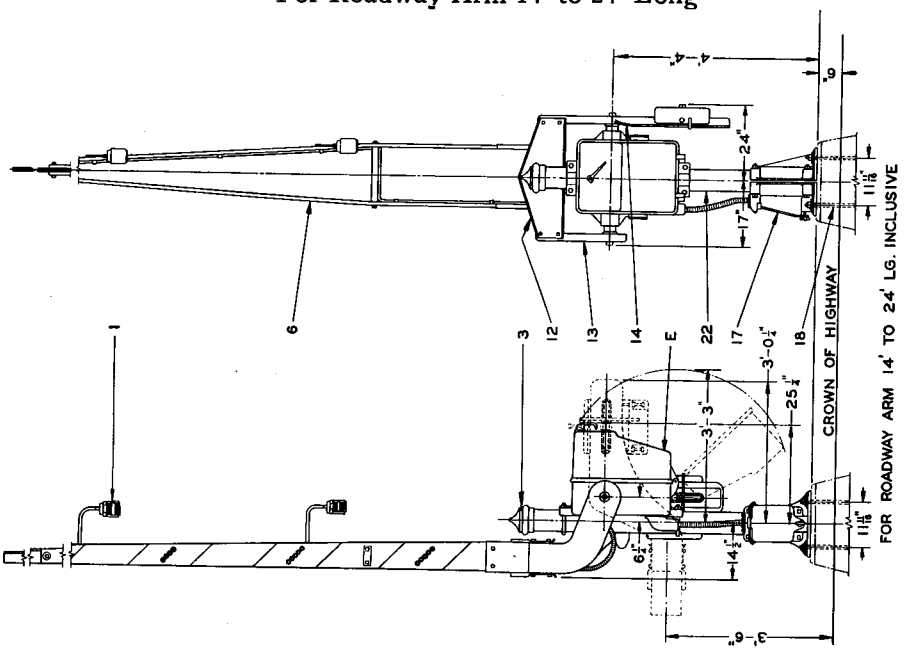
WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

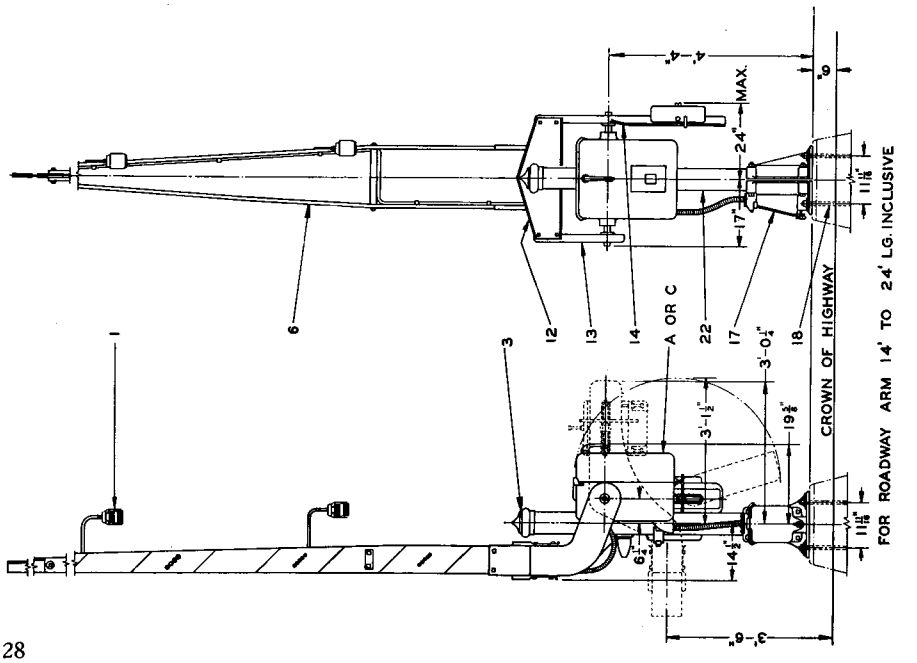
STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required

For Roadway Arm 14′ to 24′ Long



Type A-655, with Type 3566 Mechanism



Type A-542, with Type 3564 Mechanism

Model 10 Highway Crossing Signal

STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required

For Roadway Arm 14′ to 24′ Long

Type A-542 Type A-655

ORDERING REFERENCE

Specify Plate G160, Reference Number, Type and Description.

Description: Model 10 Highway Crossing Signal—Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*
1	A-542	3564–71
2	A-542	3564–131
3	A-655	3566–121

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.

10 V., 18 W., S.C. B.B. Type S-11 Bulb Incandescent Lamps.

No. 1585 Fresnel Lens Type Gate Light; unless No. 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.

Gate Light Spacing Per Page No. 74.

Note: When specified, mechanism can be furnished with sidewalk arm shaft having protecting cap over exposed end, should future use of sidewalk arm be contemplated.

* *See pages 3, 6 and 7.*

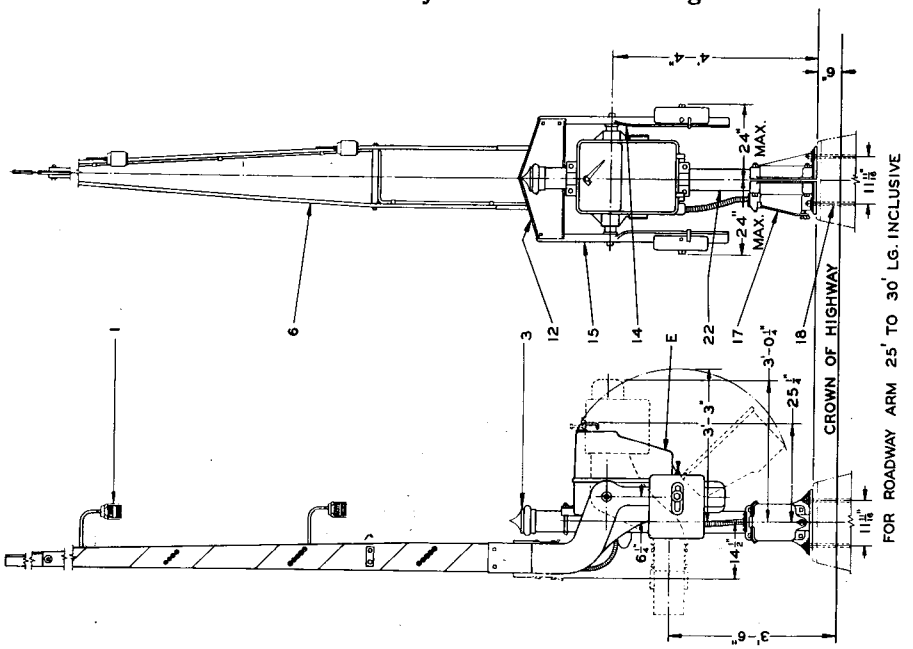
FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

WESTERN RAILROAD SUPPLY COMPANY

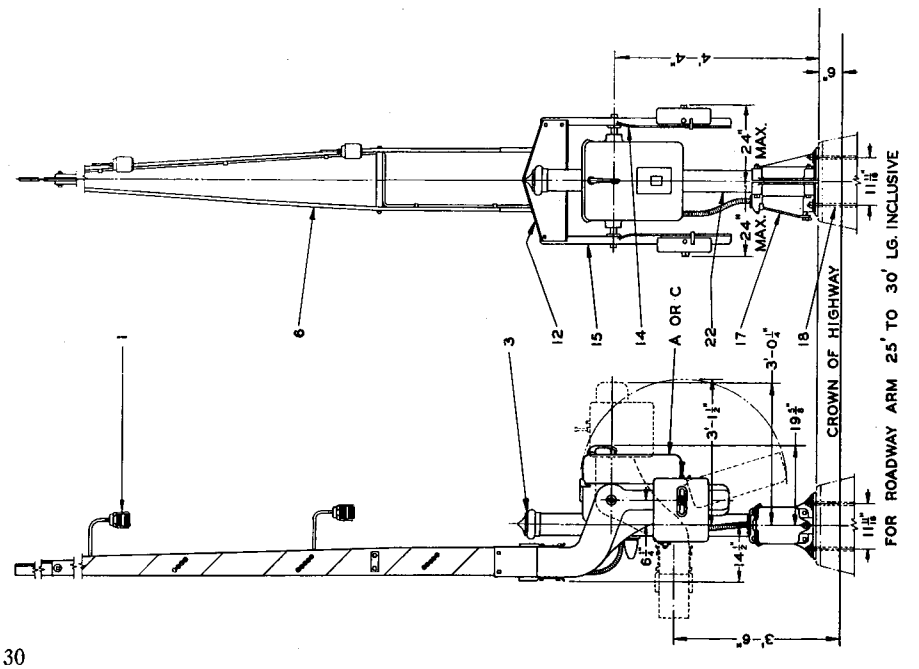
Model 10 Highway Crossing Signal

STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required For Roadway Arm 25′ to 30′ Long



Type A-656, with Type 3566 Mechanism



Type A-543, with Type 3564 Mechanism

Model 10 Highway Crossing Signal

STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required
For Roadway Arm 25′ to 30′ Long

Type A-543 Type A-656

ORDERING REFERENCE
Specify Plate G161, Reference Number, Type and Description
Description: Model 10 Highway Crossing Signal—Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*
1	A-543	3564–71
2	A-543	3564–131
3	A-656	3566–121

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.

10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.

No. 1585 Fresnel Lens Type Gate Light; unless No. 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.

Gate Light Spacing Per Page No. 74.

Note: When specified, mechanism can be furnished with sidewalk arm shaft having protecting cap over exposed end, should future use of sidewalk arm be contemplated.

* *See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

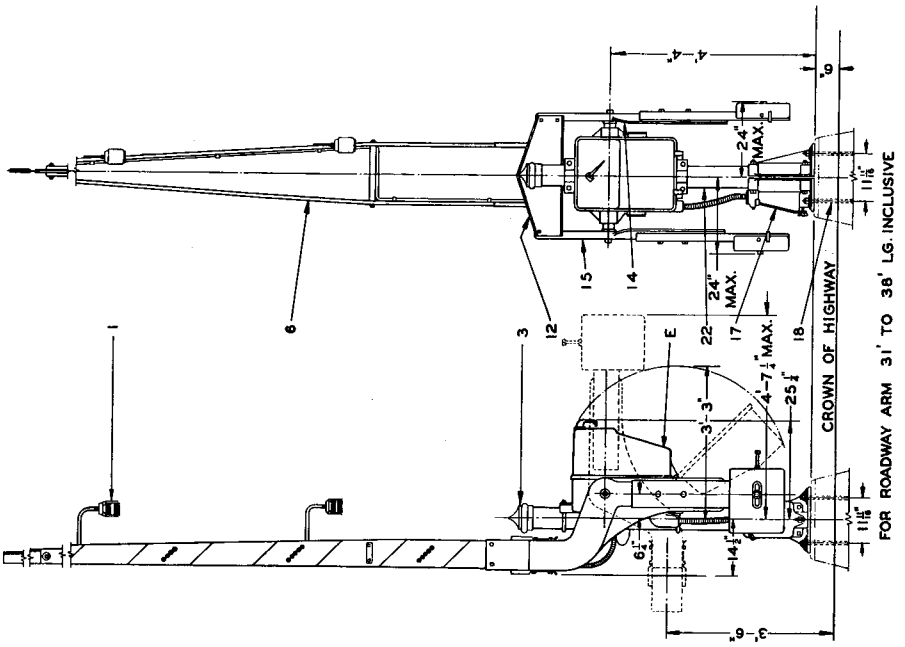
WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

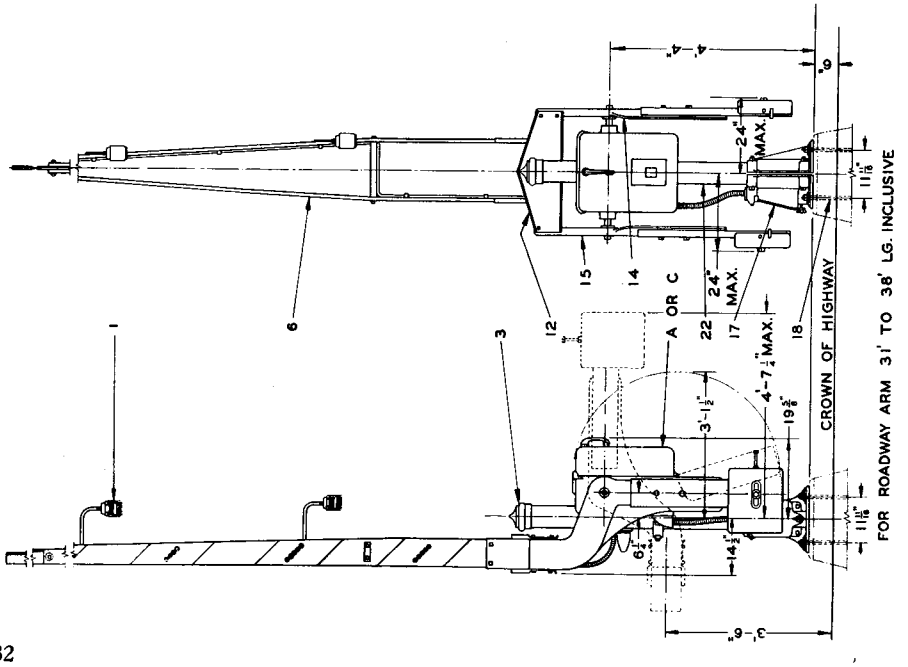
STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required

For Roadway Arm 31′ to 38′ Long



Type A-656A, with Type 3566 Mechanism



Type A-543A, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required For Roadway Arm 31′ to 38′ Long

Type A-543A Type A-656A

ORDERING REFERENCE

Specify Plate G162, Reference Number, Type and Description.
Description: Model 10 Highway Crossing Signal—Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*
1	A-543A	3564–71
2	A-543A	3564–131
3	A-656A	3566–121

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
No. 1585 Fresnel Lens Type Gate Light; unless No. 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

Note: When specified, mechanism can be furnished with sidewalk arm shaft having protecting cap over exposed end, should future use of sidewalk arm be contemplated.

* *See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

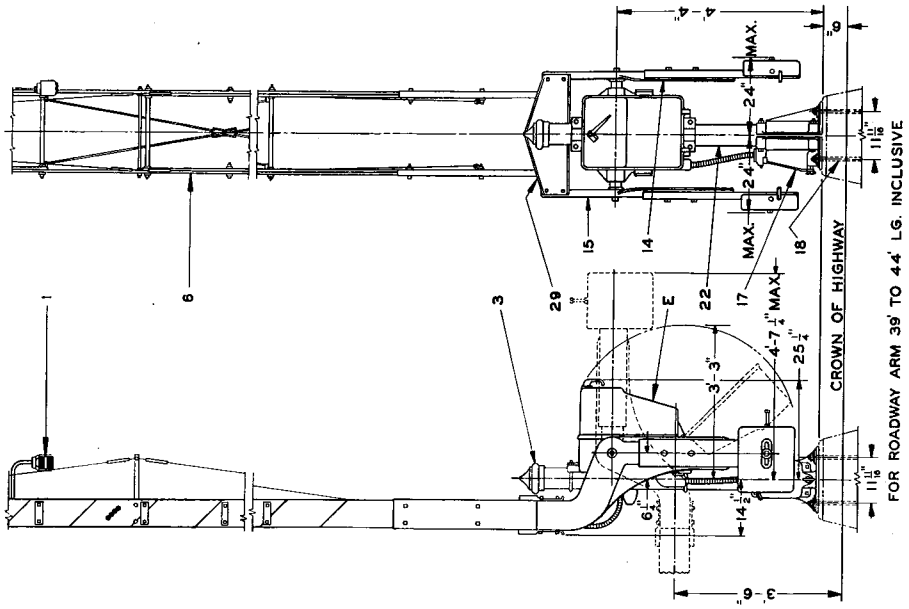
WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

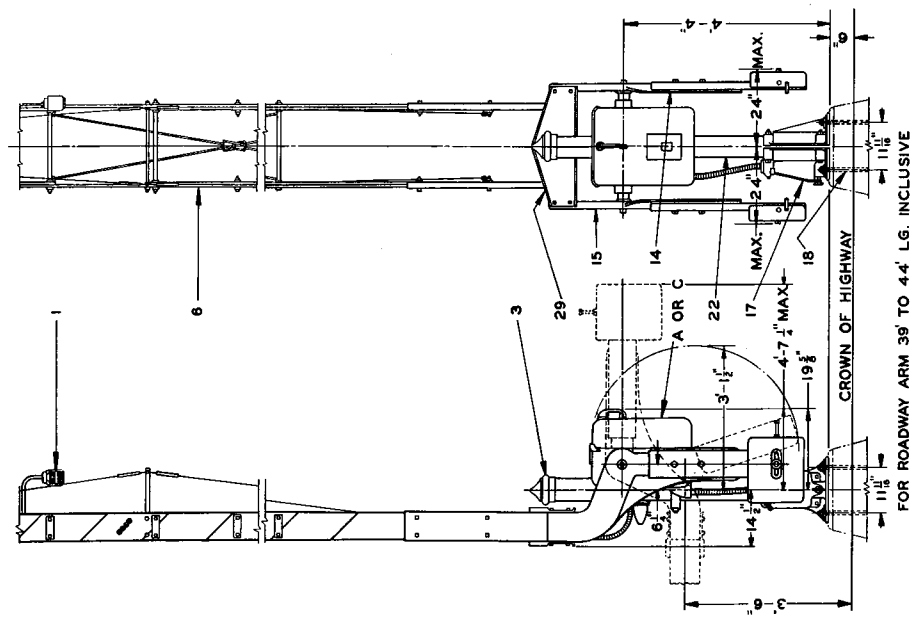
STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required

For Roadway Arm 39′ to 44′ Long



Type A-656B, with Type 3566 Mechanism



Type A-543B, with Type 3564 Mechanism

Model 10 Highway Crossing Signal

STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required For Roadway Arm 39′ to 44′ Long

Type A-543B Type A-656B

ORDERING REFERENCE

Specify Plate G163, Reference Number, Type and Description.
Description: Model 10 Highway Crossing Signal—Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*
1	A-543B	3564–71
2	A-543B	3564–131
3	A-656B	3566–121

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.

10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.

No. 1585 Fresnel Lens Type Gate Light; unless No. 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.

Gate Light Spacing Per Page No. 74.

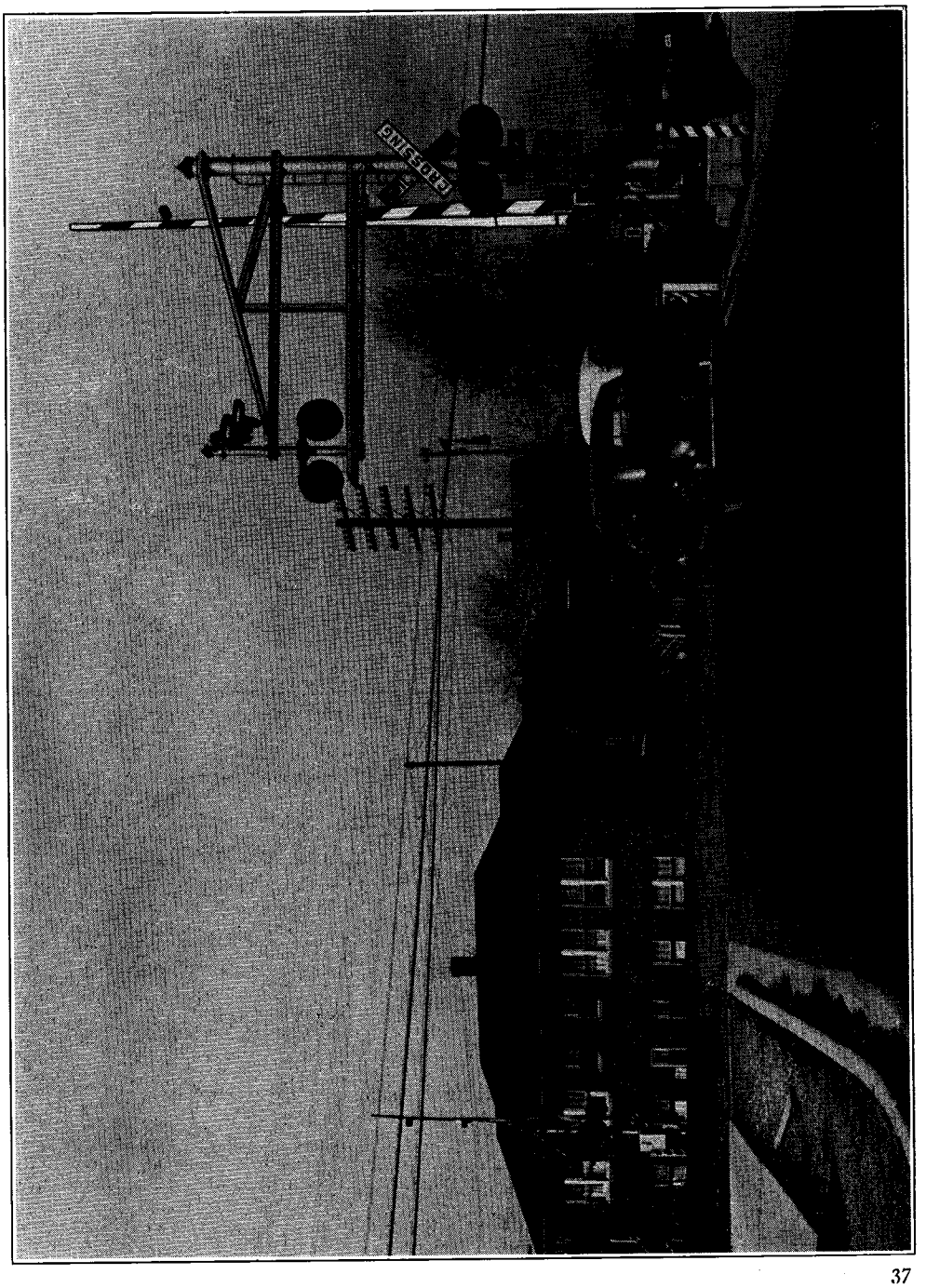
Note: When specified, mechanism can be furnished with sidewalk arm shaft having protecting cap over exposed end, should future use of sidewalk arm be contemplated.

* *See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

MEMORANDA

Installation of Stub Pole Type of Assembly With Cantilever Type Flashing Light Signal

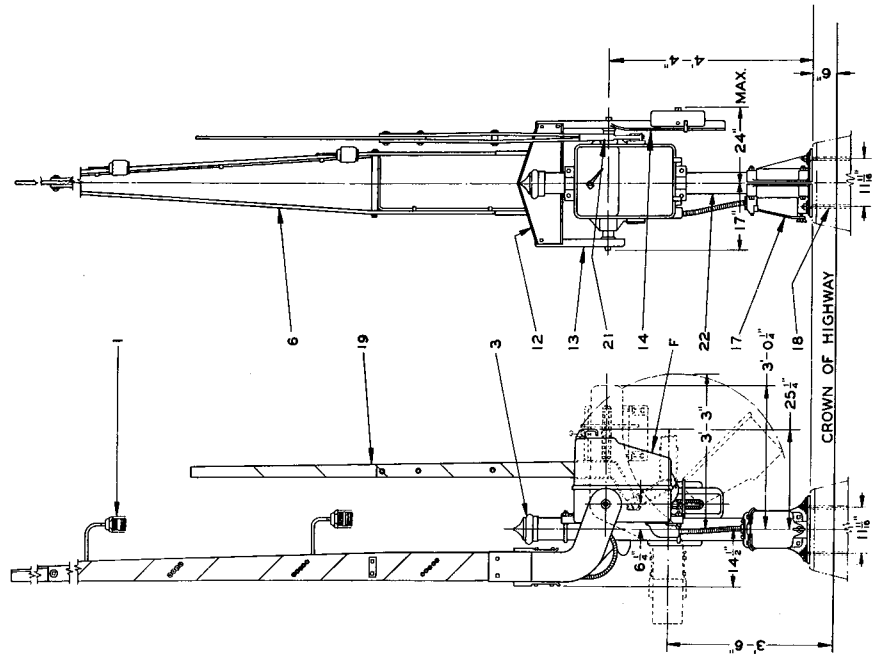


WESTERN RAILROAD SUPPLY COMPANY

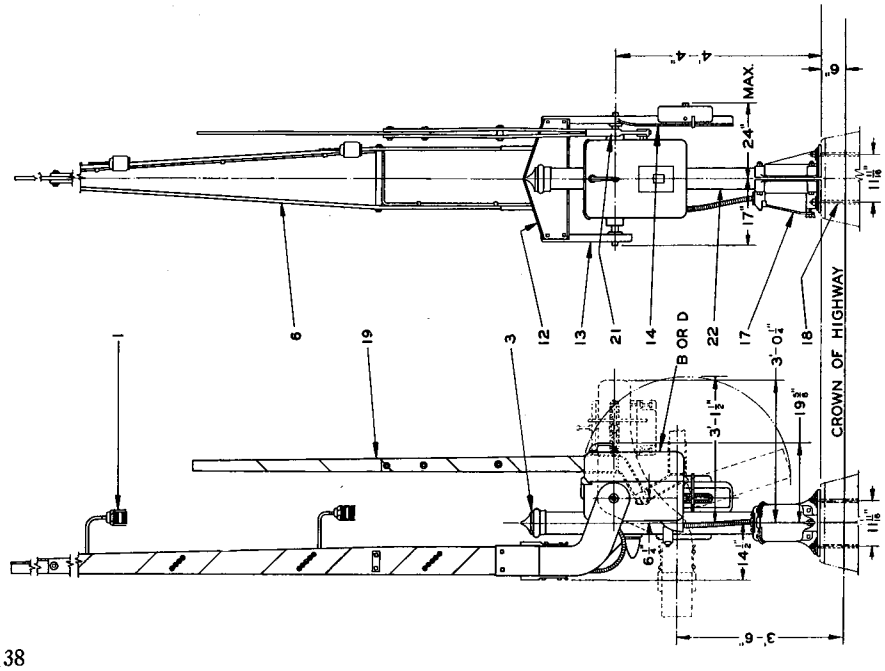
Model 10 Highway Crossing Signal

STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required
For Roadway Arm 14′ to 24′ Long
and Sidewalk Arm 18′ Long or Less



Type A-657, with Type 3566 Mechanism



Type A-550, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required
For Roadway Arm 14′ to 24′ Long
and Sidewalk Arm 18′ Long or Less

Type A-550 Type A-657

ORDERING REFERENCE

Specify Plate G165, Reference Number, Type and Description.
Description: Model 10 Highway Crossing Signal—Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*
1	A-550	3564-72
2	A-550	3564-132
3	A-657	3566-122

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).
(b) Length of Sidewalk Arm (Tip of Arm to Center of Mast).

Note: Sidewalk arm may be furnished with one or more gate light units, if specified.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
No. 1585 Fresnel Lens Type Gate Light; unless 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

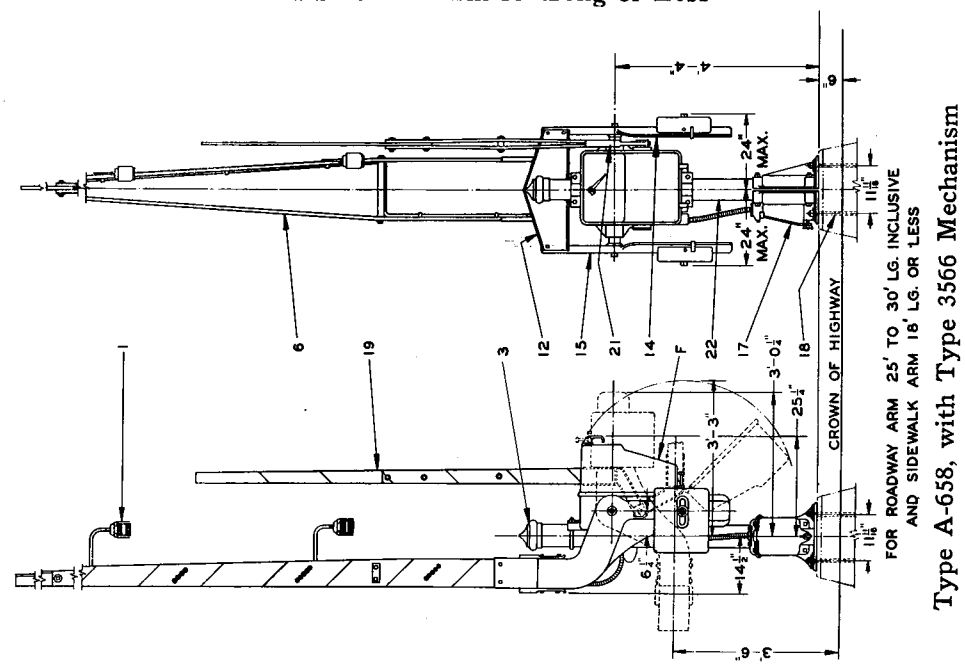
* *See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

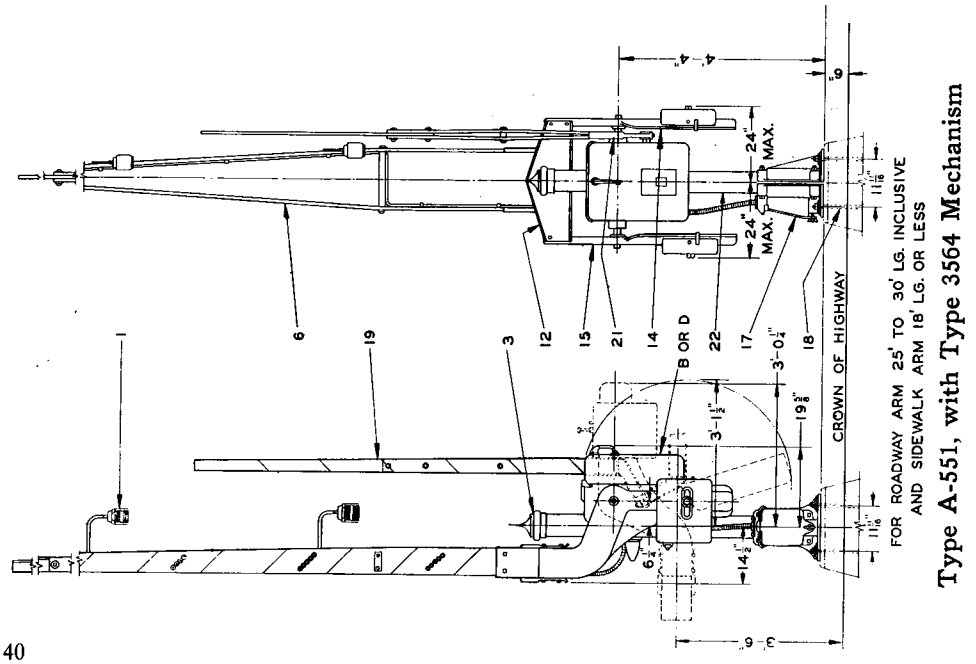
Model 10 Highway Crossing Signal

STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required
For Roadway Arm 25′ to 30′ Long
and Sidewalk Arm 18′ Long or Less



Type A-658, with Type 3566 Mechanism



Type A-551, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required
For Roadway Arm 25′ to 30′ Long
and Sidewalk Arm 18′ Long or Less

Type A-551 Type A-658

ORDERING REFERENCE

Specify Plate G166, Reference Number, Type and Description.
Description: Model 10 Highway Crossing Signal—Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*
1	A-551	3564–72
2	A-551	3564–132
3	A-658	3566–122

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).
(b) Length of Sidewalk Arm (Tip of Arm to Center of Mast).

Note: Sidewalk arm may be furnished with one or more gate light units, if specified.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
No. 1585 Fresnel Lens Type Gate Light; unless 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

* *See pages 3, 6 and 7.*

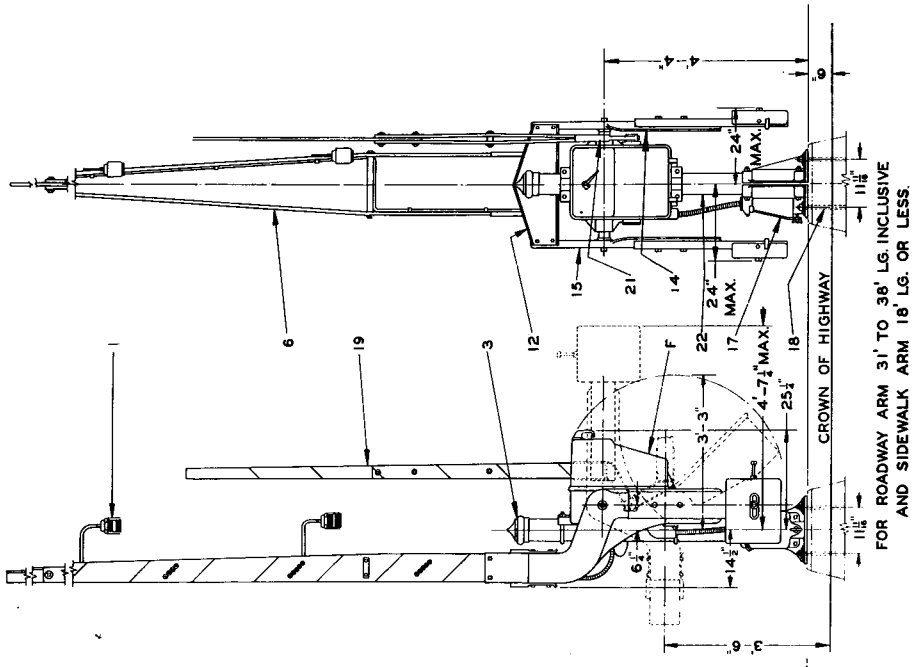
FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

WESTERN RAILROAD SUPPLY COMPANY

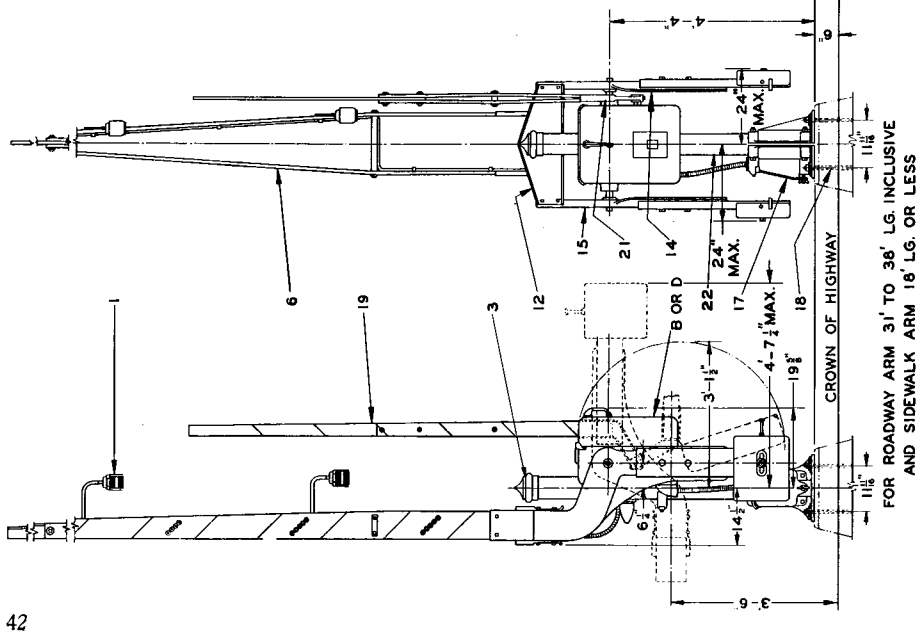
Model 10 Highway Crossing Signal

STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required
For Roadway Arm 31′ to 38′ Long
and Sidewalk Arm 18′ Long or Less



Type A-658A, with Type 3566 Mechanism



Type A-551A, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required
For Roadway Arm 31′ to 38′ Long
and Sidewalk Arm 18′ Long or Less

Type A-551A Type A-658A

ORDERING REFERENCE

Specify Plate G167, Reference Number, Type and Description.
Description: Model 10 Highway Crossing Signal—Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*
1	A-551A	3564–72
2	A-551A	3564–132
3	A-658A	3566–122

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).
(b) Length of Sidewalk Arm (Tip of Arm to Center of Mast).

Note: Sidewalk arm may be furnished with one or more gate light units, if specified.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
No. 1585 Fresnel Lens Type Gate Light; unless 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

* *See pages 3, 6 and 7.*

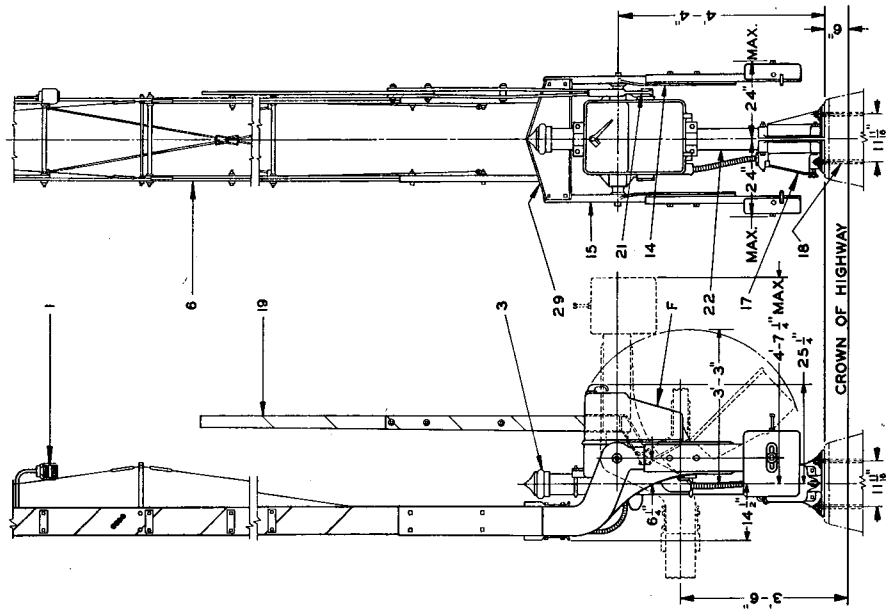
FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

Model 10 Highway Crossing Signal

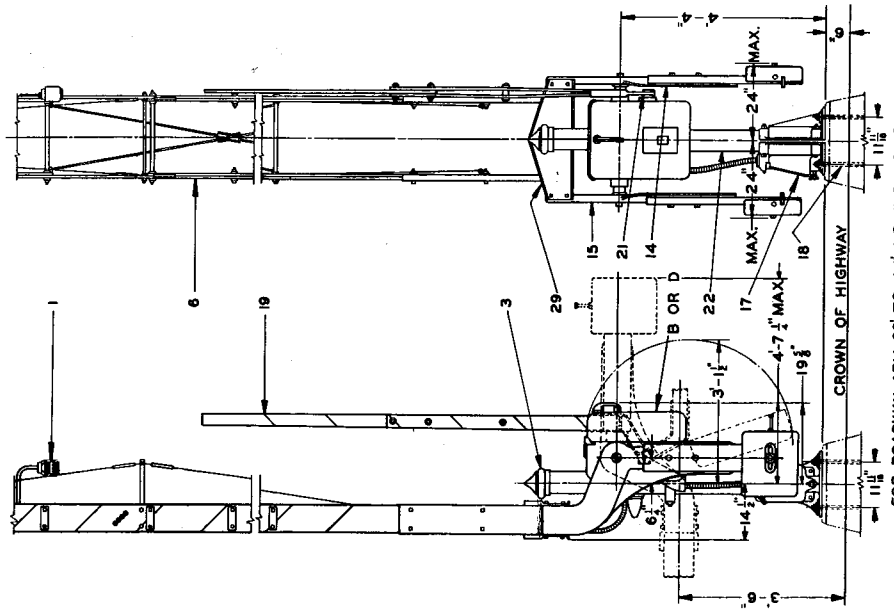
STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required

For Roadway Arm 39′ to 44′ Long
and Sidewalk Arm 18′ Long or Less



Type A-658B, with Type 3566 Mechanism



Type A-551B, with Type 3564 Mechanism

Model 10 Highway Crossing Signal

STUB POLE AUTOMATIC GATE ASSEMBLIES

For use with Cantilever Type Flashing Light Signals, as illustrated on Page 37, or on Leaving Side of Tracks Where Four Gates Are Required For Roadway Arm 39′ to 44′ Long and Sidewalk Arm 18′ Long or Less

Type A-551B Type A-658B

ORDERING REFERENCE

Specify Plate G168, Reference Number, Type and Description.
Description: Model 10 Highway Crossing Signal—Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*
1	A-551B	3564–72
2	A-551B	3564–132
3	A-658B	3566–122

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of Mast).
(b) Length of Sidewalk Arm (Tip of Arm to Center of Mast).

Note: Sidewalk arm may be furnished with one or more gate light units, if specified.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
No. 1585 Fresnel Lens Type Gate Light; unless 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

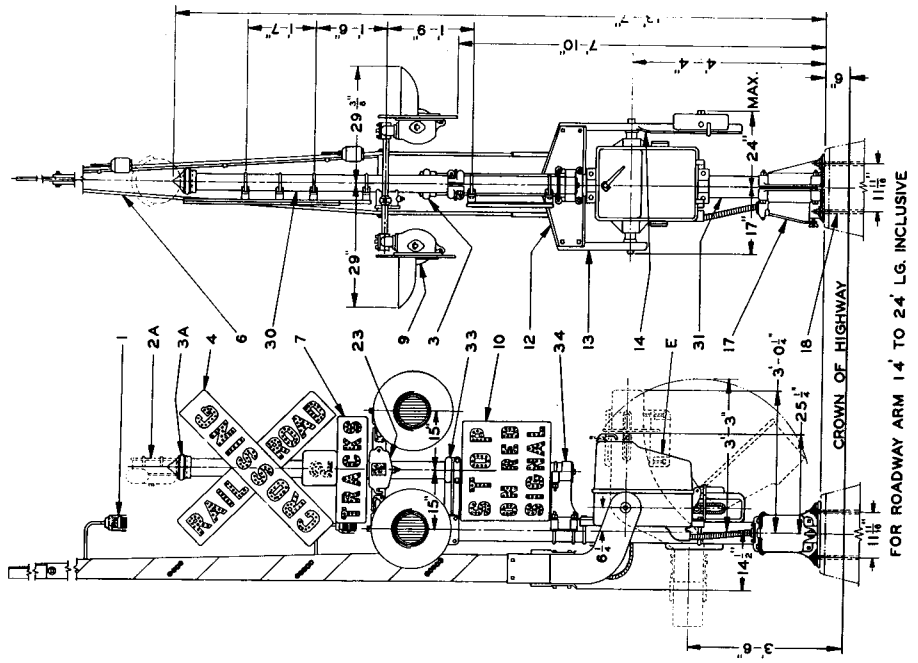
* *See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

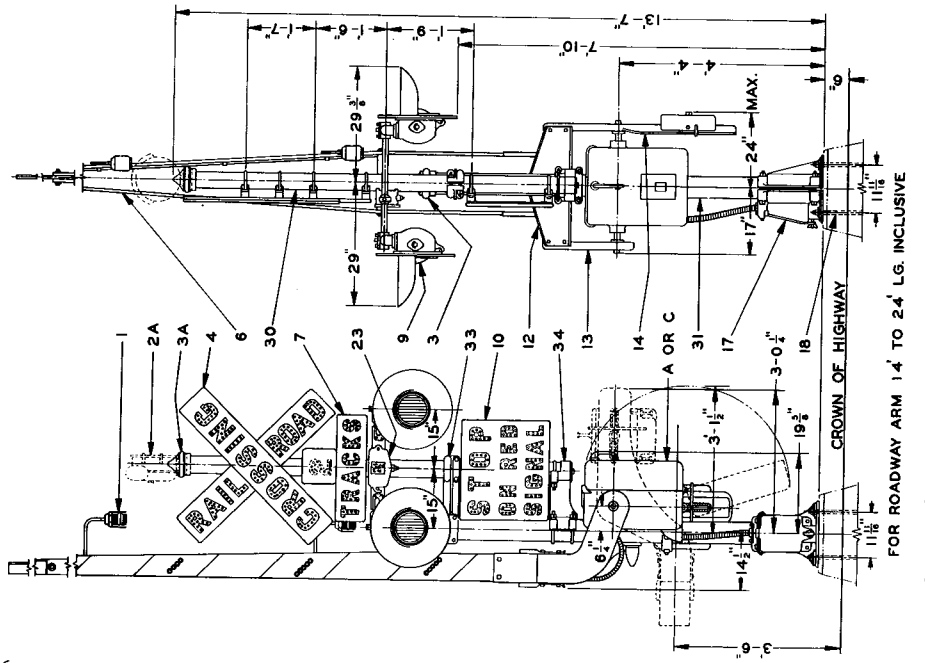
WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

OFF-SET MAST TYPE
FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES
For Roadway Arm 14′ to 24′ Long



Type A-659, with Type 3566 Mechanism



Type A-529, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

OFF-SET MAST TYPE
FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES
For Roadway Arm 14′ to 24′ Long

Type A-529 Type A-659

ORDERING REFERENCE
Specify Plate G170, Reference Number, Type and Description.
Description: Model 10 Highway Crossing Signal, Flashing Light and Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*	Type of Railroad Crossing Sign	Crossing Bell or Pinnacle
1	A-529	3564-71	Reflector	Crossing Bell
2	A-529	3564-71	Reflector	Pinnacle
3	A-529	3564-71	Cast Iron	Crossing Bell
4	A-529	3564-71	Cast Iron	Pinnacle
5	A-529	3564-131	Reflector	Crossing Bell
6	A-529	3564-131	Reflector	Pinnacle
7	A-529	3564-131	Cast Iron	Crossing Bell
8	A-529	3564-131	Cast Iron	Pinnacle
9	A-659	3566-121	Reflector	Crossing Bell
10	A-659	3566-121	Reflector	Pinnacle
11	A-659	3566-121	Cast Iron	Crossing Bell
12	A-659	3566-121	Cast Iron	Pinnacle

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of 5″ Mast).
(b) Numeral Required on "Number of Tracks" Sign.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
Type 222CR Crossing Bell (Section B, Plate B-5) (When Required).
Type 950-201 Flashing Light Units (Section D, Plate D370).
"Stop on Red Signal" Sign.
No. 1585 Fresnel Lens Type Gate Light; unless 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

Note: When specified, mechanism can be furnished with sidewalk arm shaft having protecting cap over exposed end, should future use of sidewalk arm be contemplated.

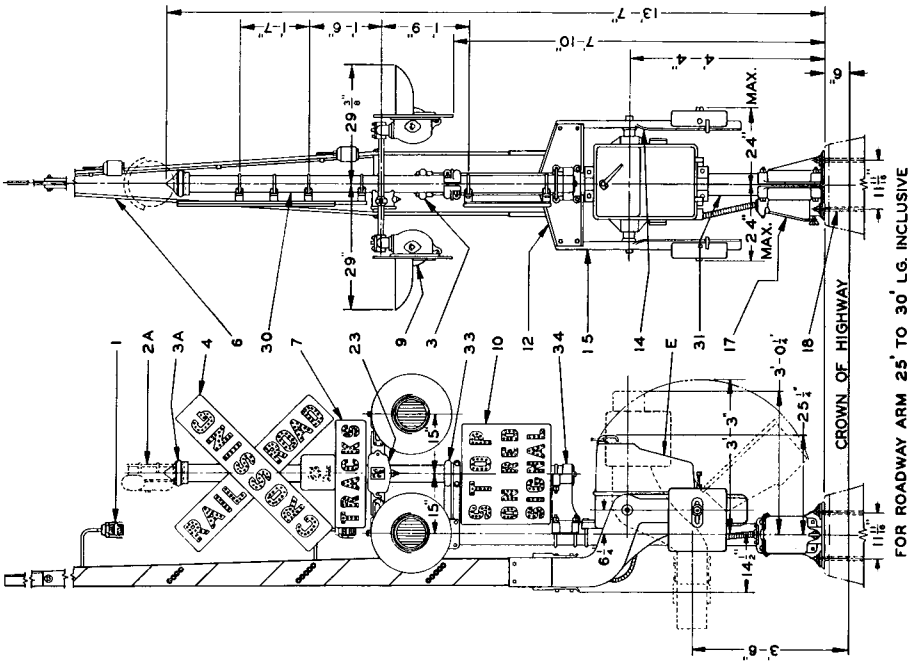
* *See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

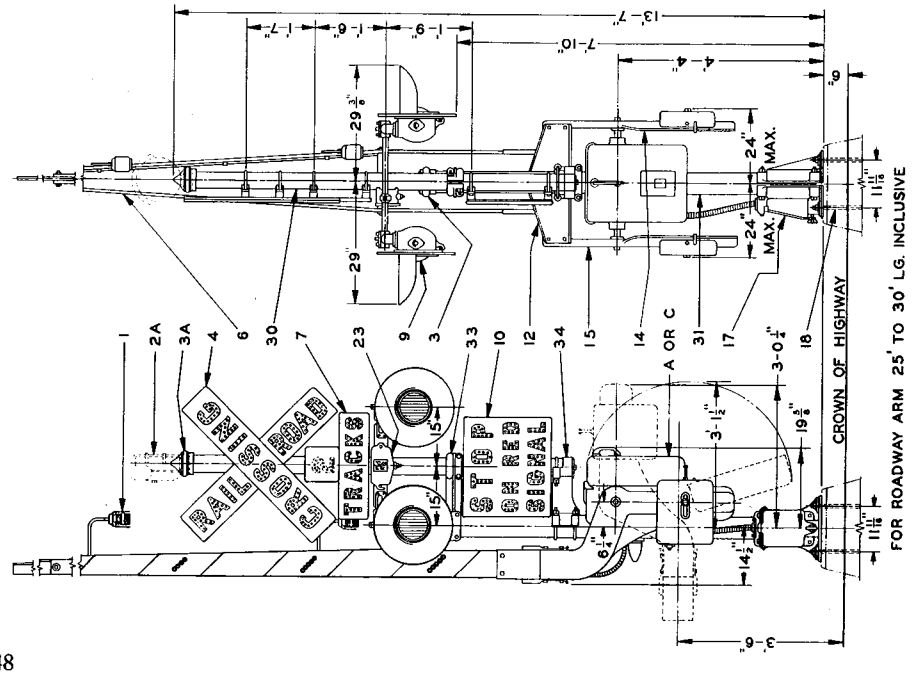
WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

OFF-SET MAST TYPE
FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES
For Roadway Arm 25′ to 30′ Long



Type A-660, with Type 3566 Mechanism



Type A-533, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

OFF-SET MAST TYPE
FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES
For Roadway Arm 25′ to 30′ Long

Type A-533 Type A-660

ORDERING REFERENCE
Specify Plate G171, Reference Number, Type and Description.
Description: Model 10 Highway Crossing Signal, Flashing Light and Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*	Type of Railroad Crossing Sign	Crossing Bell or Pinnacle
1	A-533	3564-71	Reflector	Crossing Bell
2	A-533	3564-71	Reflector	Pinnacle
3	A-533	3564-71	Cast Iron	Crossing Bell
4	A-533	3564-71	Cast Iron	Pinnacle
5	A-533	3564-131	Reflector	Crossing Bell
6	A-533	3564-131	Reflector	Pinnacle
7	A-533	3564-131	Cast Iron	Crossing Bell
8	A-533	3564-131	Cast Iron	Pinnacle
9	A-660	3566-121	Reflector	Crossing Bell
10	A-660	3566-121	Reflector	Pinnacle
11	A-660	3566-121	Cast Iron	Crossing Bell
12	A-660	3566-121	Cast Iron	Pinnacle

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of 5″ Mast).
(b) Numeral Required on "Number of Tracks" Sign.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
Type 222CR Crossing Bell (Section B, Plate B-5) (When Required).
Type 950-201 Flashing Light Units (Section D, Plate D370).
"Stop on Red Signal" Sign.
No. 1585 Fresnel Lens Type Gate Light; unless 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

Note: When specified, mechanism can be furnished with sidewalk arm shaft having protecting cap over exposed end, should future use of sidewalk arm be contemplated.

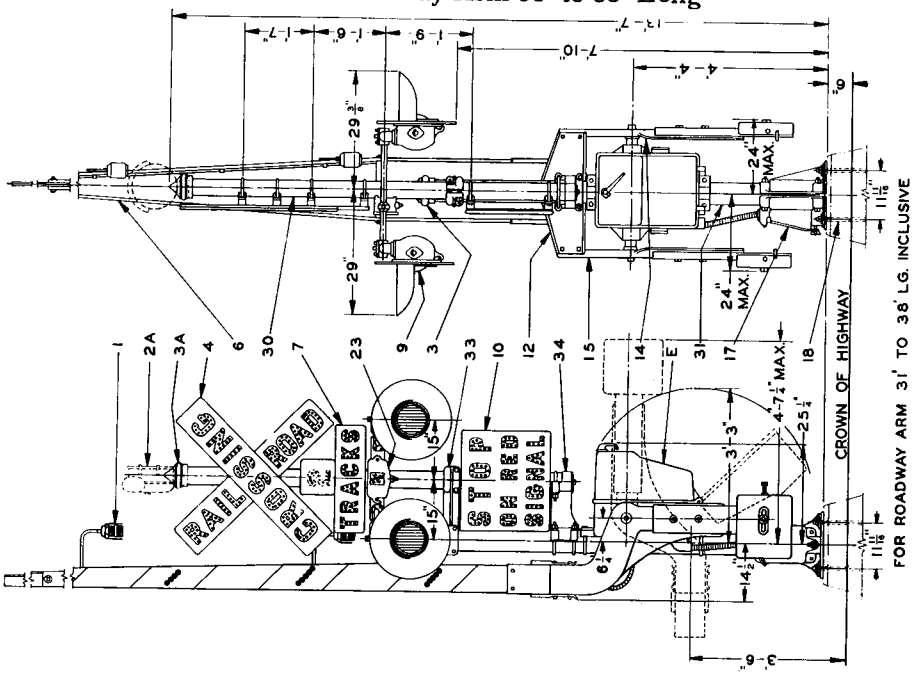
* *See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

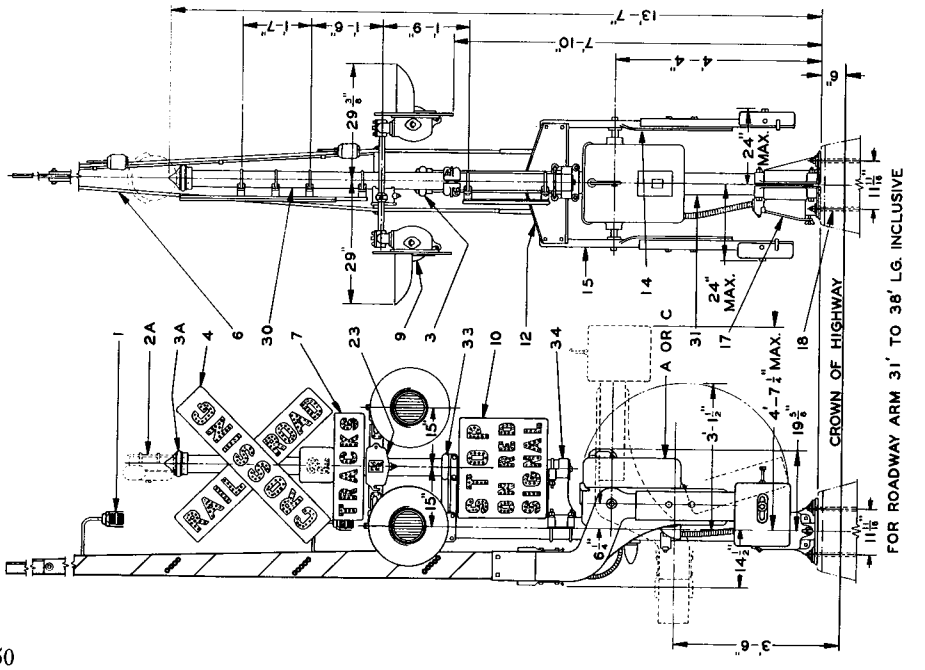
WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

OFF-SET MAST TYPE
FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES
For Roadway Arm 31′ to 38′ Long



Type A-660A, with Type 3566 Mechanism



Type A-533A, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

OFF-SET MAST TYPE
FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES
For Roadway Arm 31′ to 38′ Long

Type A-533A Type A-660A

ORDERING REFERENCE

Specify Plate G172, Reference Number, Type and Description.

Description: Model 10 Highway Crossing Signal, Flashing Light and Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*	Type of Railroad Crossing Sign	Crossing Bell or Pinnacle
1	A-533A	3564-71	Reflector	Crossing Bell
2	A-533A	3564-71	Reflector	Pinnacle
3	A-533A	3564-71	Cast Iron	Crossing Bell
4	A-533A	3564-71	Cast Iron	Pinnacle
5	A-533A	3564-131	Reflector	Crossing Bell
6	A-533A	3564-131	Reflector	Pinnacle
7	A-533A	3564-131	Cast Iron	Crossing Bell
8	A-533A	3564-131	Cast Iron	Pinnacle
9	A-660A	3566-121	Reflector	Crossing Bell
10	A-660A	3566-121	Reflector	Pinnacle
11	A-660A	3566-121	Cast Iron	Crossing Bell
12	A-660A	3566-121	Cast Iron	Pinnacle

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of 5″ Mast)
(b) Numeral Required on "Number of Tracks" Sign.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

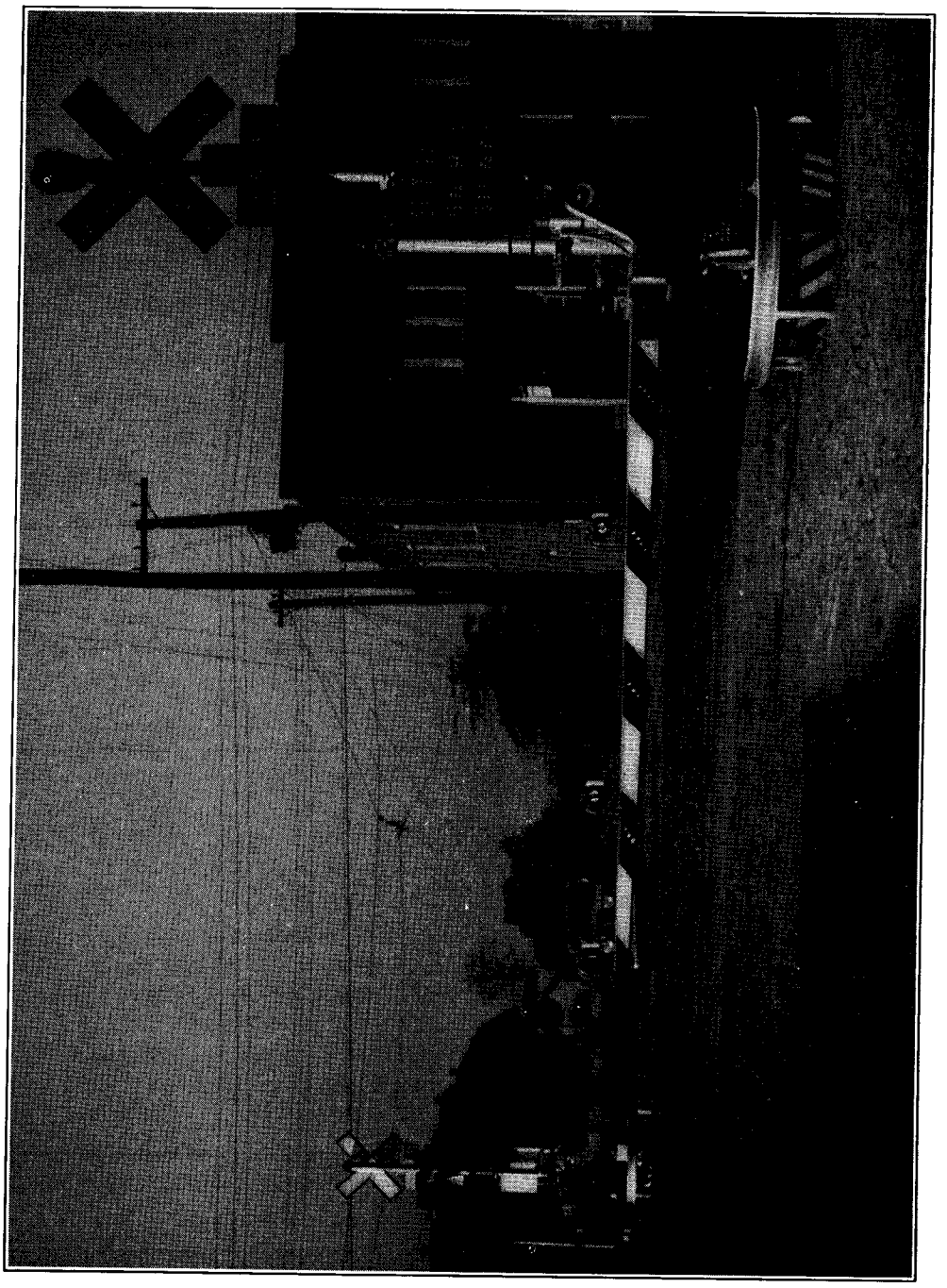
Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
Type 222CR Crossing Bell (Section B, Plate B-5) (When Required).
Type 950-201 Flashing Light Units (Section D, Plate D370).
"Stop on Red Signal" Sign.
No. 1585 Fresnel Lens Type Gate Light; unless 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

Note: When specified, mechanism can be furnished with sidewalk arm shaft having protecting cap over exposed end, should future use of sidewalk arm be contemplated.

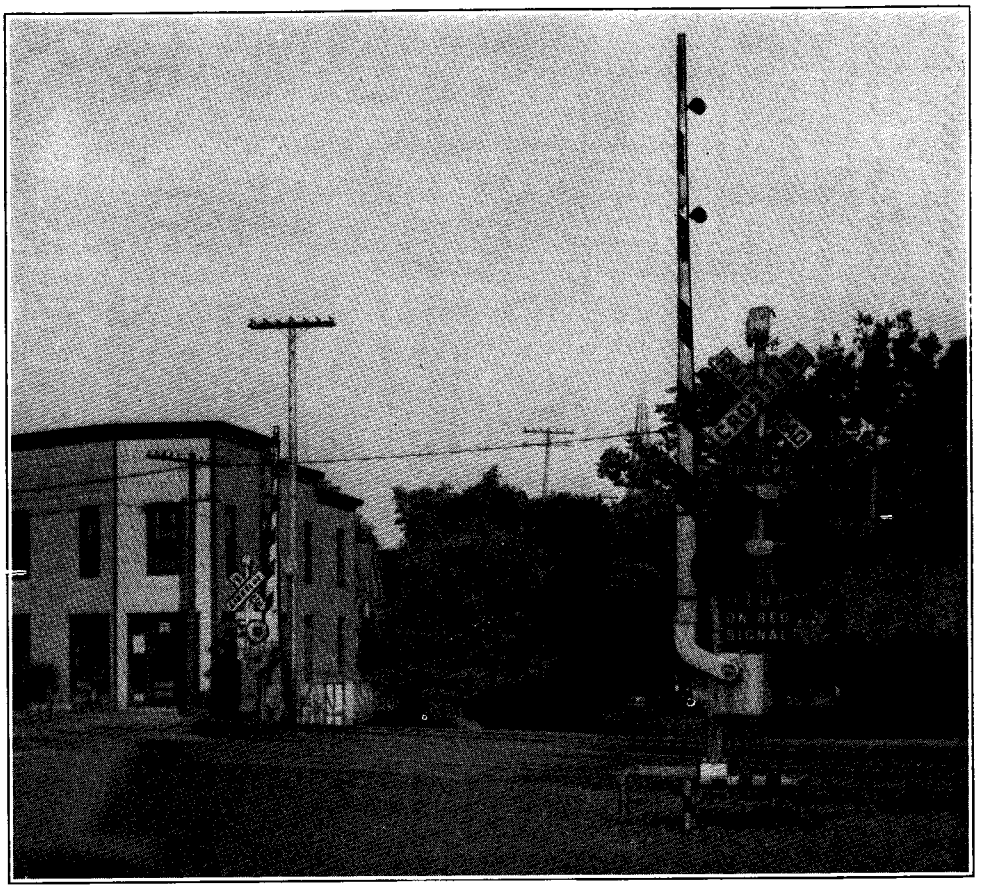
* *See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

Model 10 Signal With Off-set Mast



Model 10 Signal With Off-set Mast and Extra Lights for Side Street



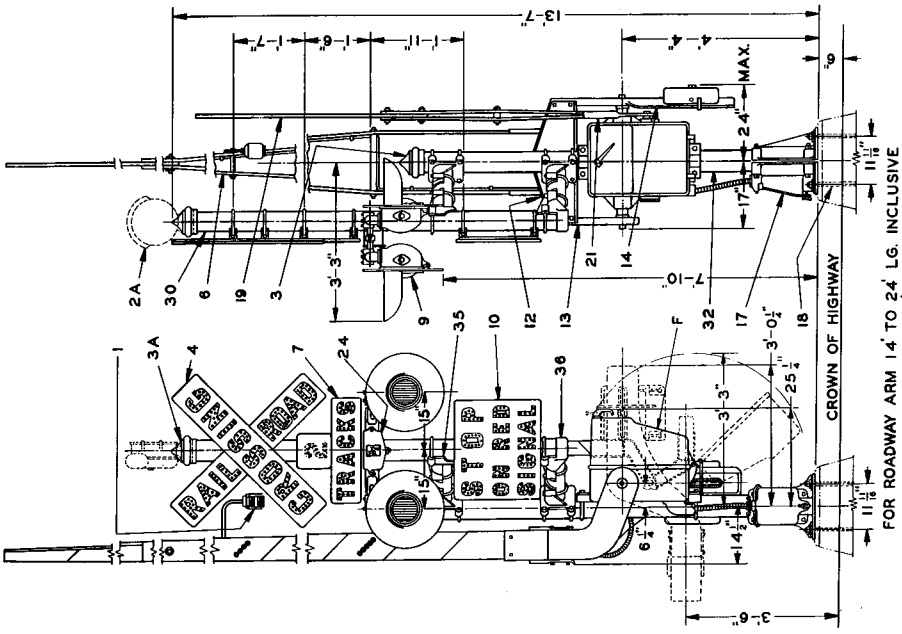
MEMORANDA

WESTERN RAILROAD SUPPLY COMPANY

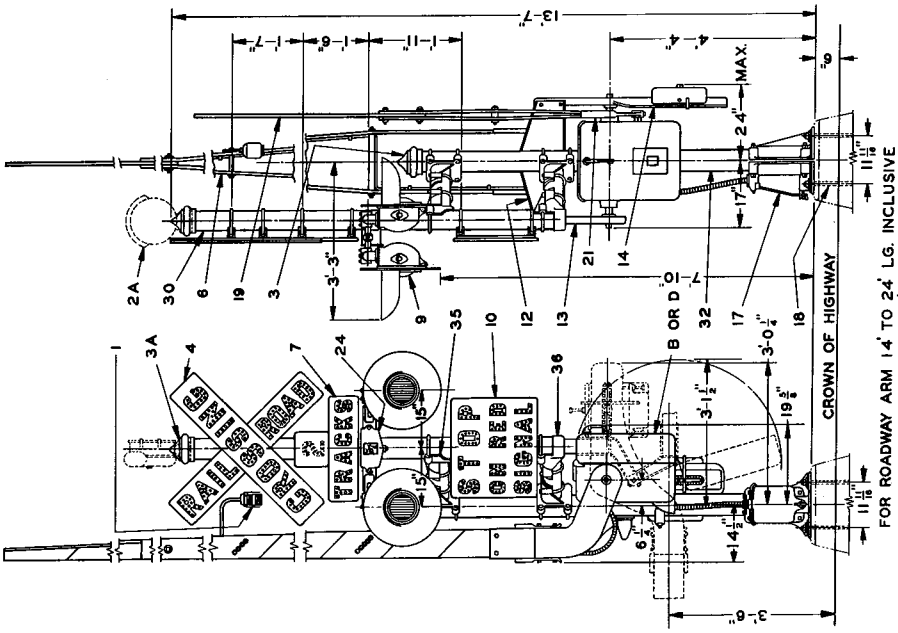
Model 10 Highway Crossing Signal

OFF-SET MAST TYPE
FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 14′ to 24′ Long
and Sidewalk Arm 18′ Long or Less



Type A-661, with Type 3566 Mechanism



Type A-641, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

OFF-SET MAST TYPE
FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

For Roadway Arm 14′ to 24′ Long
and Sidewalk Arm 18′ Long or Less

Type A-641 Type A-661

ORDERING REFERENCE

Specify Plate G175, Reference Number, Type and Description.

Description: Model 10 Highway Crossing Signal, Flashing Light and Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*	Type of Railroad Crossing Sign	Crossing Bell or Pinnacle
1	A-641	3564-72	Reflector	Crossing Bell
2	A-641	3564-72	Reflector	Pinnacle
3	A-641	3564-72	Cast Iron	Crossing Bell
4	A-641	3564-72	Cast Iron	Pinnacle
5	A-641	3564-132	Reflector	Crossing Bell
6	A-641	3564-132	Reflector	Pinnacle
7	A-641	3564-132	Cast Iron	Crossing Bell
8	A-641	3564-132	Cast Iron	Pinnacle
9	A-661	3566-122	Reflector	Crossing Bell
10	A-661	3566-122	Reflector	Pinnacle
11	A-661	3566-122	Cast Iron	Crossing Bell
12	A-661	3566-122	Cast Iron	Pinnacle

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of 5″ Mast).
(b) Numeral Required on "Number of Tracks" Sign.
(c) Length of Sidewalk Arm (Tip of Arm to Center of 5″ Mast).

Note: Sidewalk arm will be furnished with one or more gate lights, if specified.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
Type 222CR Crossing Bell (Section B, Plate B-5) (When Required).
Type 950-201 Flashing Light Units (Section D, Plate D370).
"Stop on Red Signal" Sign.
No. 1585 Fresnel Lens Type Gate Light; unless 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

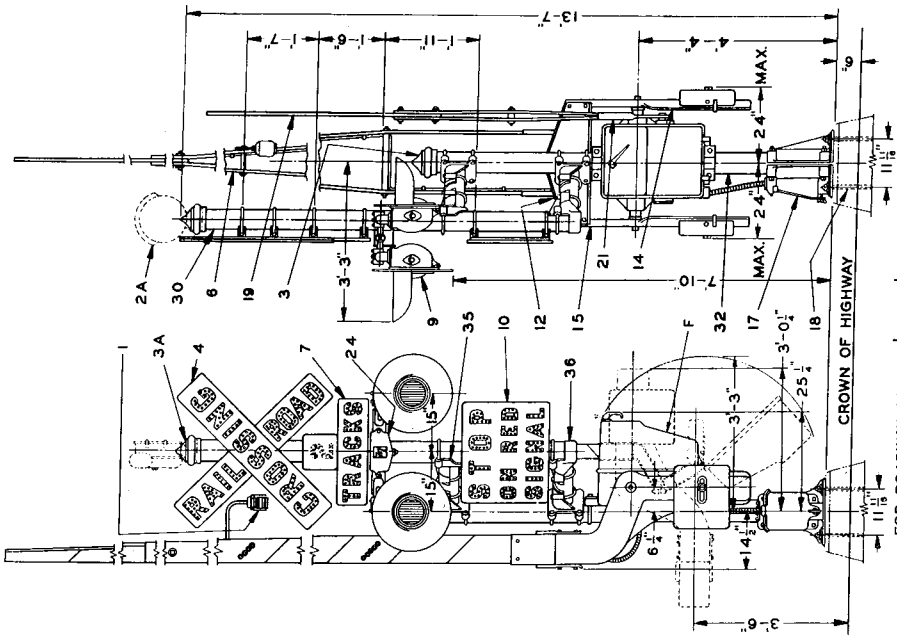
* *See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

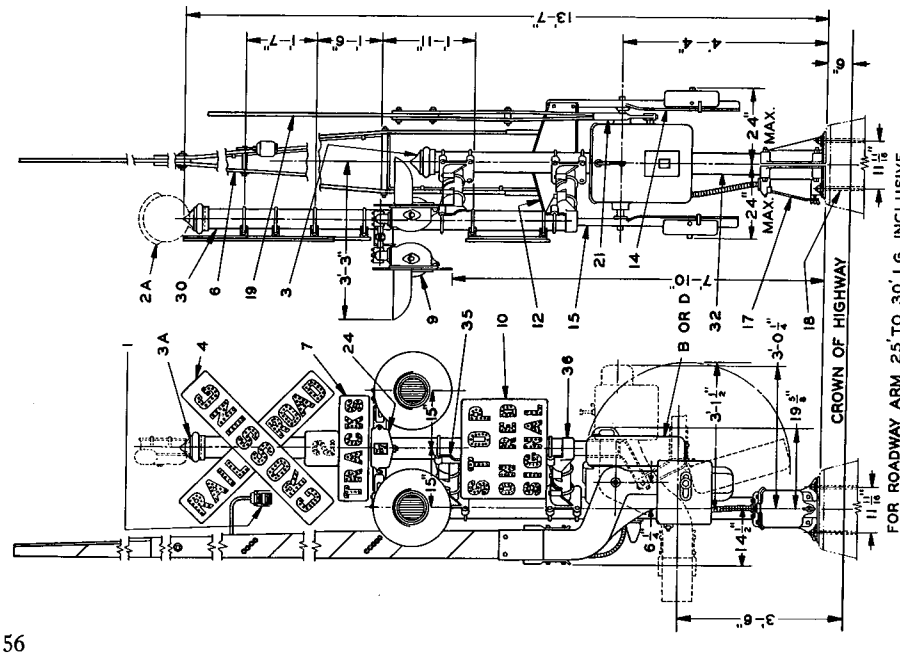
WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

OFF-SET MAST TYPE
FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES
For Roadway Arm 25′ to 30′ Long
and Sidewalk Arm 18′ Long or Less



Type A-662, with Type 3566 Mechanism



Type A-642, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

OFF-SET MAST TYPE
FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES
For Roadway Arm 25′ to 30′ Long
and Sidewalk Arm 18′ Long or Less
Type A-642 Type A-662

ORDERING REFERENCE
Specify Plate G176, Reference Number, Type and Description.
Description: Model 10 Highway Crossing Signal, Flashing Light and Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*	Type of Railroad Crossing Sign	Crossing Bell or Pinnacle
1	A-642	3564-72	Reflector	Crossing Bell
2	A-642	3564-72	Reflector	Pinnacle
3	A-642	3564-72	Cast Iron	Crossing Bell
4	A-642	3564-72	Cast Iron	Pinnacle
5	A-642	3564-132	Reflector	Crossing Bell
6	A-642	3564-132	Reflector	Pinnacle
7	A-642	3564-132	Cast Iron	Crossing Bell
8	A-642	3564-132	Cast Iron	Pinnacle
9	A-662	3566-122	Reflector	Crossing Bell
10	A-662	3566-122	Reflector	Pinnacle
11	A-662	3566-122	Cast Iron	Crossing Bell
12	A-662	3566-122	Cast Iron	Pinnacle

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of 5″ Mast).
(b) Numeral Required on "Number of Tracks" Sign.
(c) Length of Sidewalk Arm (Tip of Arm to Center of 5″ Mast).

Note: Sidewalk arm will be furnished with one or more gate lights, if specified.

UNLESS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
Type 222CR Crossing Bell (Section B, Plate B-5) (When Required).
Type 950-201 Flashing Light Units (Section D, Plate D370).
"Stop on Red Signal" Sign.
No. 1585 Fresnel Lens Type Gate Light; unless 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

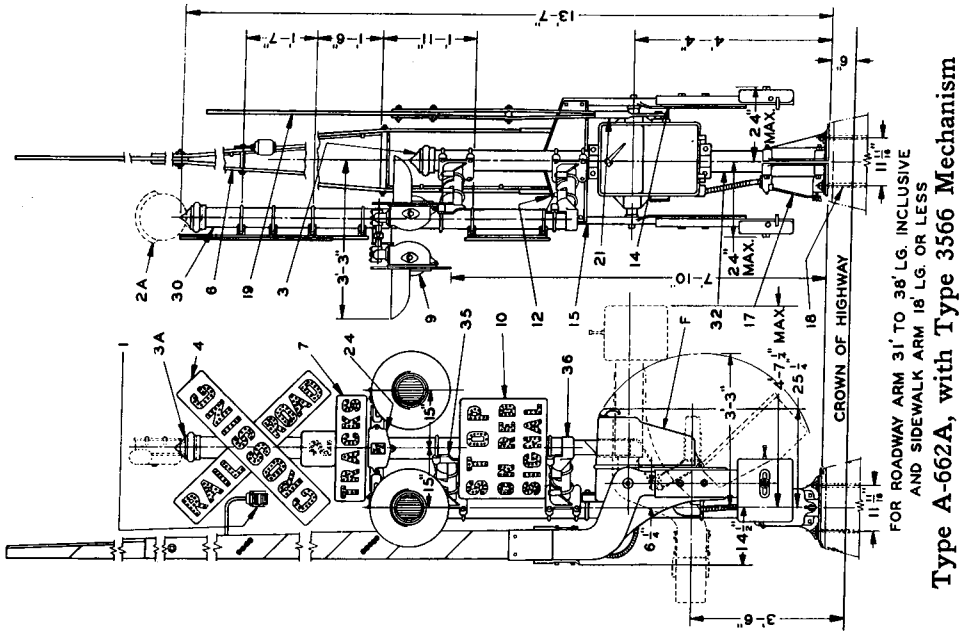
* *See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

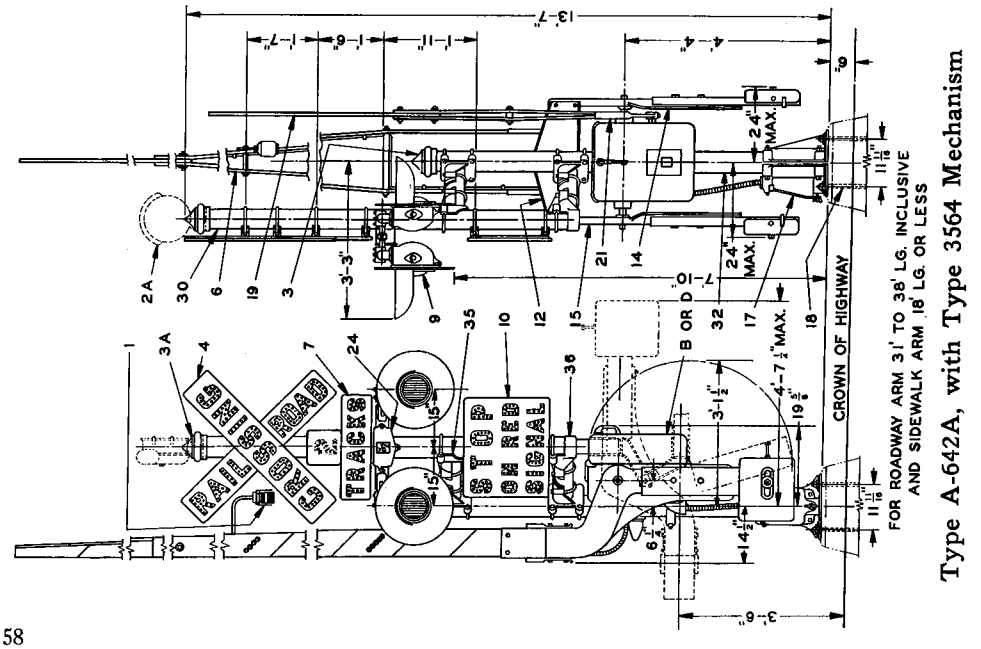
WESTERN RAILROAD SUPPLY COMPANY

Model 10 Highway Crossing Signal

OFF-SET MAST TYPE
FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES
For Roadway Arm 31′ to 38′ Long
and Sidewalk Arm 18′ Long or Less



Type A-662A, with Type 3566 Mechanism



Type A-642A, with Type 3564 Mechanism

Model 10 Highway Crossing Signal

OFF-SET MAST TYPE
FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES
For Roadway Arm 31′ to 38′ Long
and Sidewalk Arm 18′ Long or Less
Type A-642A Type A-662A

ORDERING REFERENCE
Specify Plate G177, Reference Number, Type and Description.

Description: Model 10 Highway Crossing Signal, Flashing Light and Automatic Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*	Type of Railroad Crossing Sign	Crossing Bell or Pinnacle
1	A-642A	3564-72	Reflector	Crossing Bell
2	A-642A	3564-72	Reflector	Pinnacle
3	A-642A	3564-72	Cast Iron	Crossing Bell
4	A-642A	3564-72	Cast Iron	Pinnacle
5	A-642A	3564-132	Reflector	Crossing Bell
6	A-642A	3564-132	Reflector	Pinnacle
7	A-642A	3564-132	Cast Iron	Crossing Bell
8	A-642A	3564-132	Cast Iron	Pinnacle
9	A-662A	3566-122	Reflector	Crossing Bell
10	A-662A	3566-122	Reflector	Pinnacle
11	A-662A	3566-122	Cast Iron	Crossing Bell
12	A-662A	3566-122	Cast Iron	Pinnacle

SPECIFY THE FOLLOWING—

(a) Length of Roadway Arm (Tip of Arm to Center of 5″ Mast).
(b) Numeral Required on "Number of Tracks" Sign.
(c) Length of Sidewalk Arm (Tip of Arm to Center of 5″ Mast).

Note: Sidewalk arm will be furnished with one or more gate lights, if specified.

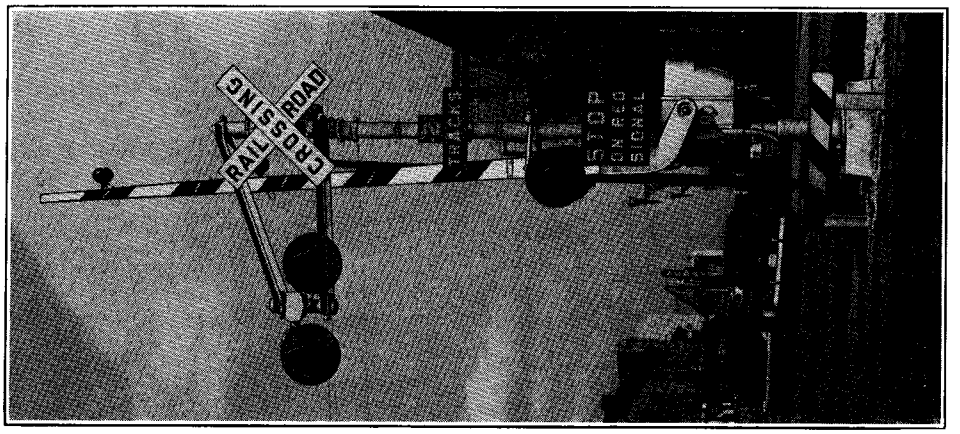
UNLESSS OTHERWISE SPECIFIED, THE FOLLOWING WILL BE FURNISHED—

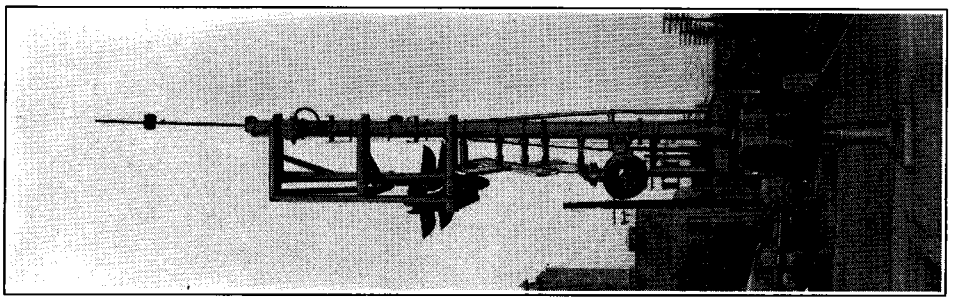
Anchor Bolts, 1″ x 36″.
10 V., 18 W., S.C.B.B. Type S-11 Bulb Incandescent Lamps.
Type 222CR Crossing Bell (Section B, Plate B-5) (When Required).
Type 950-201 Fashing Light Units (Section D, Plate D370).
"Stop on Red Signal" Sign.
No. 1585 Fresnel Lens Type Gate Light; unless 1573-50 Two-Way Indication Gate Light, Section G, Part No. 2, is Specified.
Gate Light Spacing Per Page No. 74.

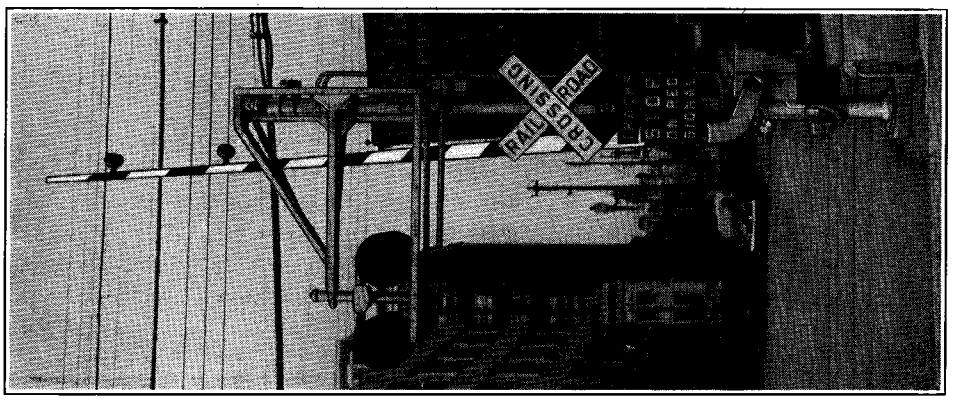
* *See pages 3, 6 and 7.*

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

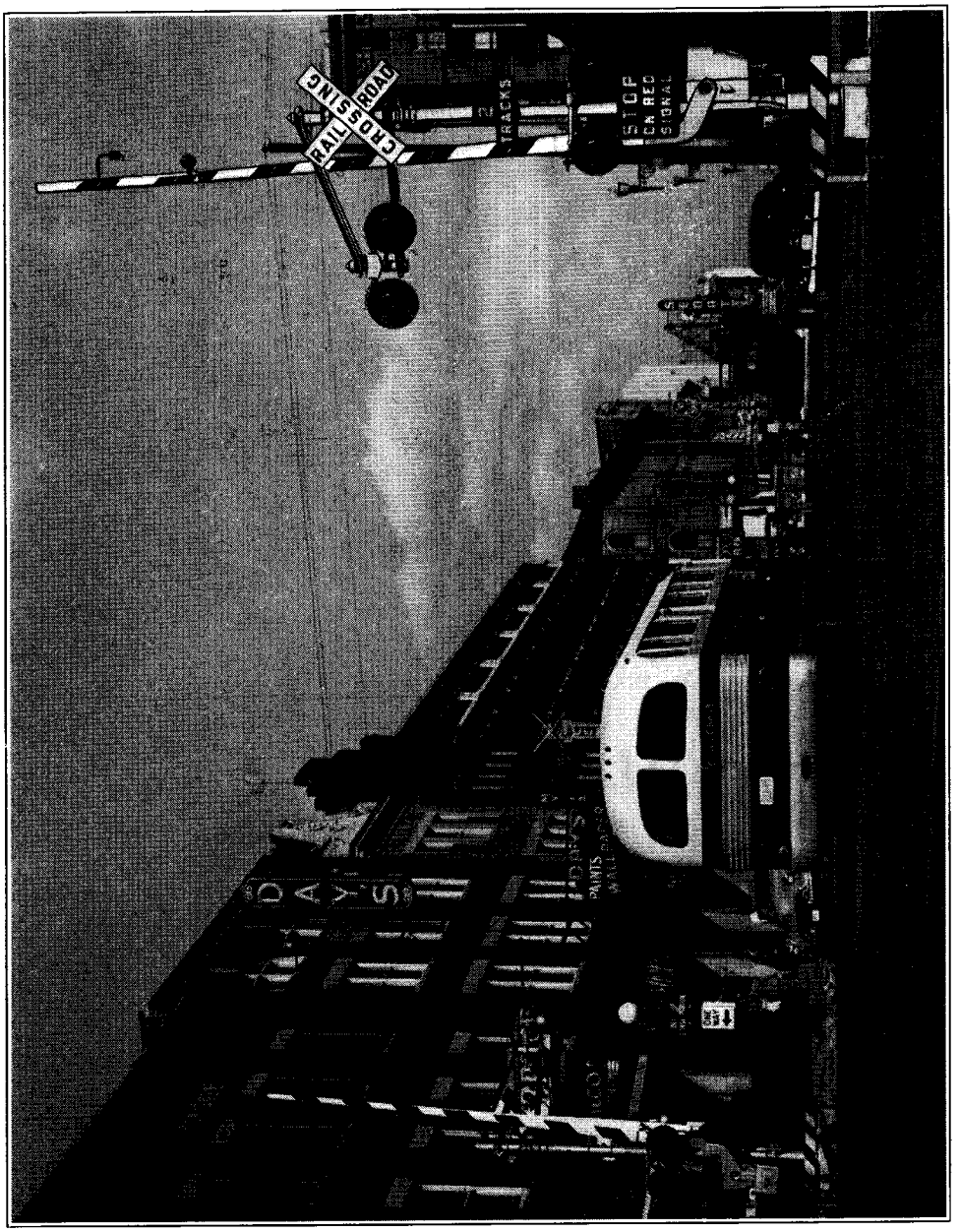
Off-set Cantilever Assemblies Designed to Meet Special Requirements







Off-set Cantilever Assemblies Designed to Meet Special Requirements

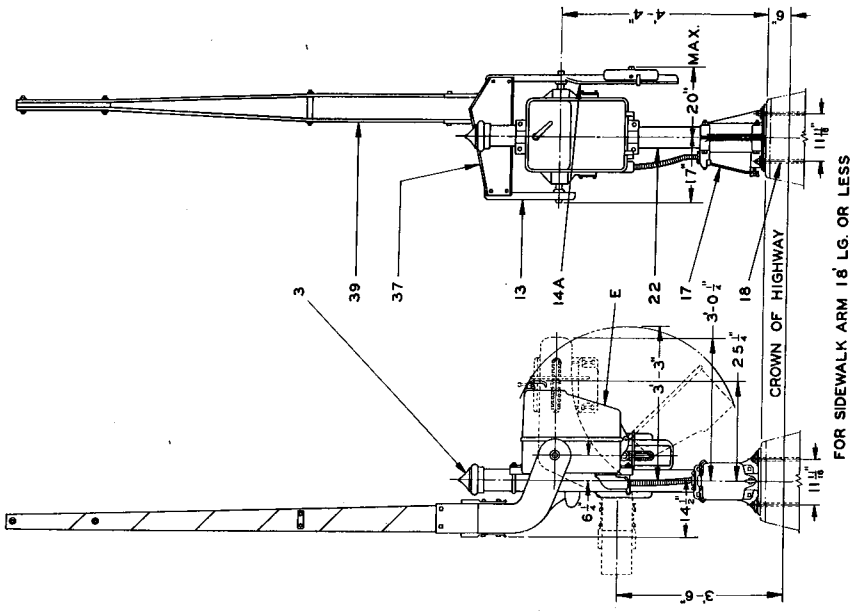


WESTERN RAILROAD SUPPLY COMPANY

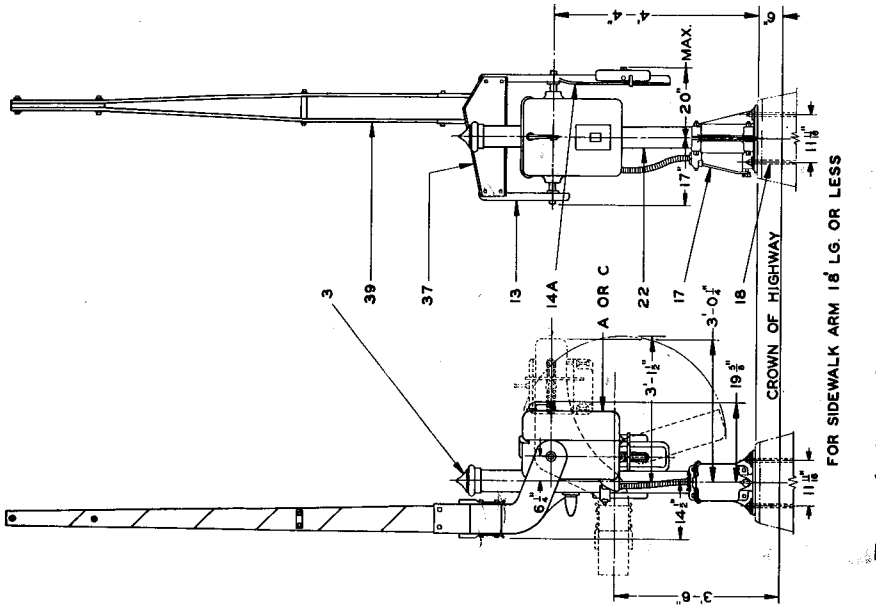
Model 10 Crossing Signal

AUTOMATIC SIDEWALK GATE ASSEMBLY

For Sidewalk Arm 18′ Long or Less



Type A-698, with Type 3566 Mechanism



Type A-598, with Type 3564 Mechanism

WESTERN RAILROAD SUPPLY COMPANY

Model 10 Crossing Signal

AUTOMATIC SIDEWALK GATE ASSEMBLIES

For Sidewalk Arm 18′ Long or Less

Type A-598 Type A-698

ORDERING REFERENCE

Specify Plate G180, Reference Number, Type and Description.

Description: Model 10 Crossing Signal—Automatic Sidewalk Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*
1	A-598	3564–71
2	A-598	3564–131
3	A-698	3566–121

SPECIFY THE FOLLOWING—

(a) Length of Sidewalk Arm (Tip of Arm to Center of Mast).

UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS WILL BE FURNISHED, 1″ x 36″.

* *See pages 3, 6 and 7.*

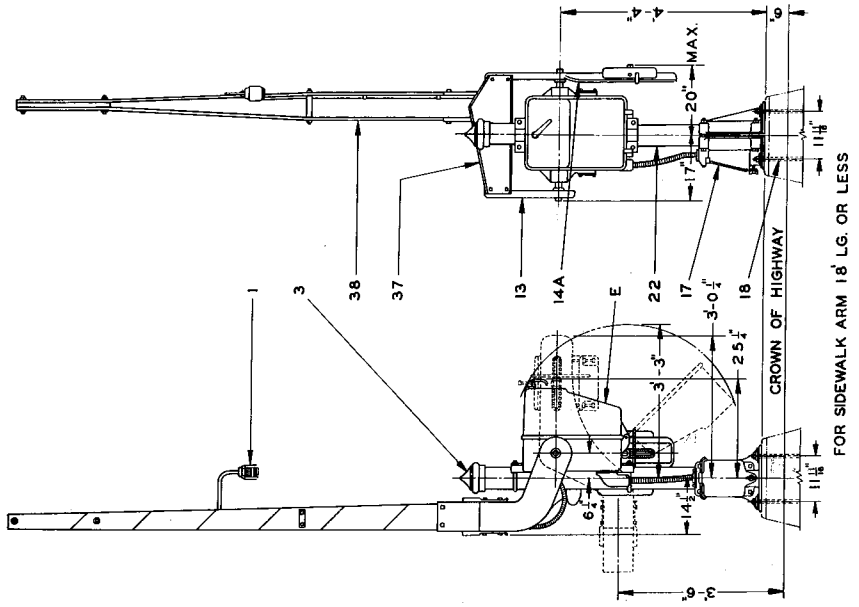
FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

WESTERN RAILROAD SUPPLY COMPANY

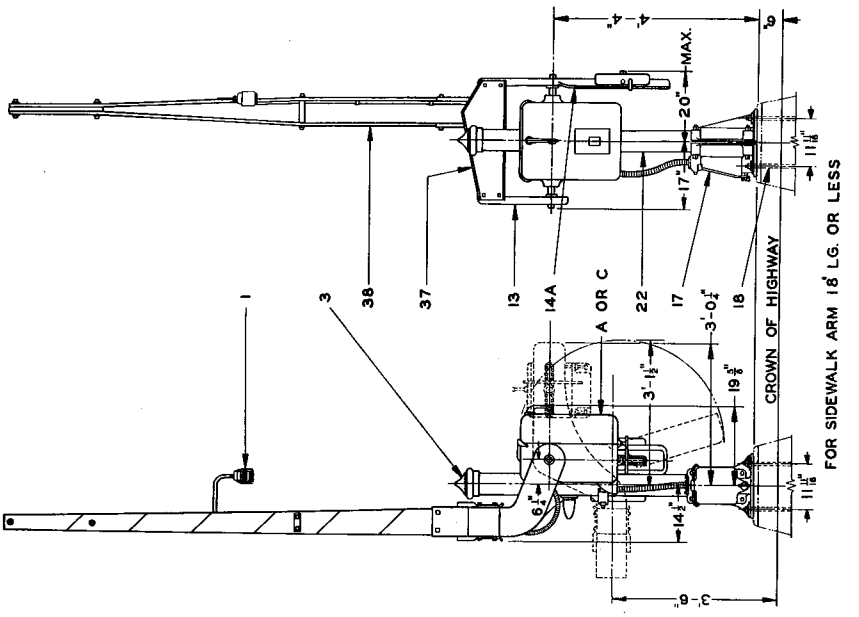
Model 10 Crossing Signal

AUTOMATIC SIDEWALK GATE ASSEMBLY

For Sidewalk Arm 18′ Long or Less



Type A-698A, with Type 3566 Mechanism



Type A-598A, with Type 3564 Mechanism

Model 10 Crossing Signal

AUTOMATIC SIDEWALK GATE ASSEMBLIES

For Sidewalk Arm 18′ Long or Less

Type A-598A Type A-698A

ORDERING REFERENCE

Specify Plate G181, Reference Number, Type and Description.

Description: Model 10 Crossing Signal—Automatic Sidewalk Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*
1	A-598A	3564–71
2	A-598A	3564–131
3	A-698A	3566–121

SPECIFY THE FOLLOWING—

(a) Length of Sidewalk Arm (Tip of Arm to Center of Mast).

(b) Type of Gate Light (No. 1585 Gate Light with Fresnel Type Lens, or No. 1573-50 Gate Light with Two-Way Indication Type Lenses, Section G, Part 2).

UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS WILL BE FURNISHED, 1″ x 36″.

* *See pages 3, 6 and 7.*

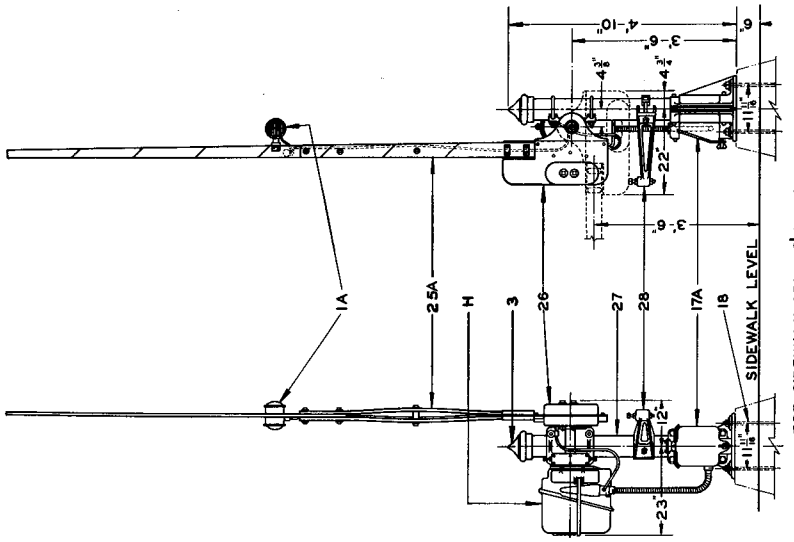
FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

WESTERN RAILROAD SUPPLY COMPANY

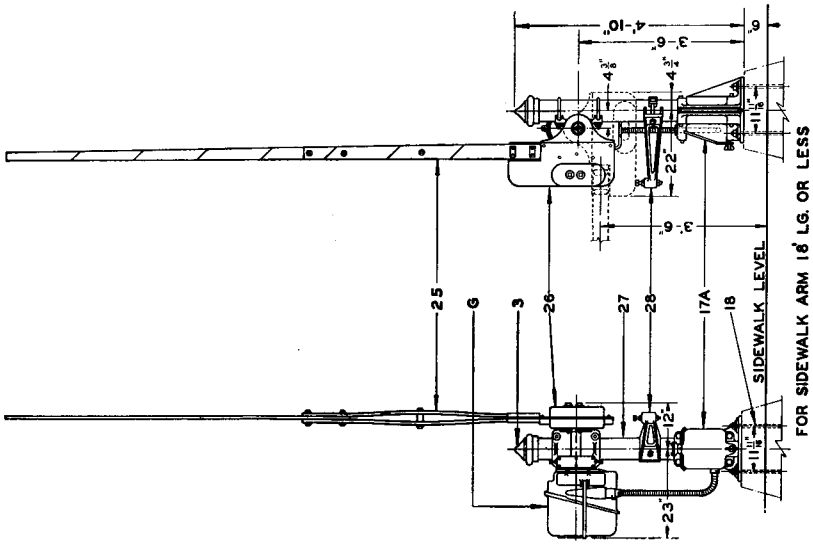
Model 10 Crossing Signal

AUTOMATIC SIDEWALK GATE ASSEMBLY

For Sidewalk Arm 18′ Long or Less



Type A-503GL-1A, with Type 3561 Mechanism



Type A-503GL-1, with Type 3561 Mechanism

Model 10 Crossing Signal

AUTOMATIC SIDEWALK GATE ASSEMBLIES

For Sidewalk Arm 18′ Long or Less

Type A-503GL-1 Type A-503GL-1A

ORDERING REFERENCE

Specify Plate G185, Reference Number, Type and Description.

Description: Model 10 Crossing Signal—Automatic Sidewalk Gate Assembly

Ref. No.	Type of Assembly	Type of Mechanism*	With or Without Gate Light
1	A-503GL-1	3561-21GL-90	Without
2	A-503GL-1A	3561-21GLA-90	With

SPECIFY THE FOLLOWING—

(a) Length of Sidewalk Arm (Tip of Arm to Center of Mast).

(b) Type of Gate Light No. 1585 Gate Light with Fresnel Type Lens, or No. 1573-50 Gate Light with Two-Way Indication Type Lenses, Section G, Part 2.

UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS WILL BE FURNISHED, 1″ x 36″.

*See page 4.

FOR ORDERING REFERENCES FOR DETAIL PARTS OF THESE ASSEMBLIES, SEE PLATE G190

WESTERN RAILROAD SUPPLY COMPANY

Detail Parts for Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

ORDERING REFERENCE

Specify Plate Number G190, Reference Number, Description and Piece Number.

Ref. No.	Description	Piece No.
A	Crossing Gate Mechanism, 90° Operation, Gravity Down, Roadway Arm Only (For Details see Sec. G, Part 4)	3564-71C-90
B	Crossing Gate Mechanism, 90° Operation, Gravity Down, Roadway and Sidewalk Arm (For Details see Sec. G, Part 4)	3564-72C-90
C	Crossing Gate Mechanism, 90° Operation, Power Down, Roadway Arm Only (For Details see Sec. G, Part 4)	3564-131C-90
D	Crossing Gate Mechanism, 90° Operation, Power Down, Roadway and Sidewalk Arm (For Details see Sec. G, Part 4)	3564-132C-90
E	Crossing Gate Mechanism, 90° Operation, Power Down, Roadway Arm Only (For Details see Sec. G, Part 6)	3566-121C-90
F	Crossing Gate Mechanism, 90° Operation, Power Down, Roadway and Sidewalk Arm (For Details see Sec. G, Part 6)	3566-122C-90
G	Crossing Gate Mechanism, Single Bearing Type, for use with Sidewalk Arm Only (For Details see Pl. G514)	3561-21GL-90
H	Crossing Gate Mechanism, Single Bearing Type, for use with Sidewalk Arm Only, Having One Gate Light (For Details see Pl. G514)	3561-21GLA-90
1	Gate Light, Fresnel Lens Type (For Details see Pl. G209)	1585
1A	Gate Light, Two-Way Indication Type (For Details see Pl. G208).	1573-50
2	Crossing Bell for 5″ I.D. Pipe (For Details see Pl. B5)	222-FR
2A	Crossing Bell for 4″ I.D. Pipe (For Details see Pl. B5)	222-CR
3	Pinnacle for 5″ I.D. Pipe	12451
3A	Pinnacle for 4″ I.D. Pipe	12452
4	Railroad Crossing Sign, Reflector Type, Vitreous Enamel, for 4″ I.D. Pipe (For Details see Pl. H25)	3380-3
4A	Railroad Crossing Sign, Reflector Type, Vitreous Enamel, for 5″ I.D. Pipe (For Details see Pl. H25)	3380-3A
4B	Railroad Crossing Sign, Reflector Type, Synthetic Enamel, for 4″ I.D. Pipe (For Details see Pl. H25)	3380-4
4C	Railroad Crossing Sign, Reflector Type, Synthetic Enamel, for 5″ I.D. Pipe (For Details see Pl. H25)	3380-4A
4D	Railroad Crossing Sign, Reflector Type, Synthetic Enamel, White Letters on Black Background, for 4″ I.D. Pipe (for Details see Pl. H25)	3380-204
4E	Railroad Crossing Sign, Reflector Type, Synthetic Enamel, White Letters on Black Background, for 5″ I.D. Pipe (for Details see Pl. H25)	3380-204A
4F	Railroad Crossing Sign, Reflector Type, Vitreous Enamel, with Plain Embossed Letters on Back, for 4″ I.D. Pipe	3380-3E

Detail Parts for Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES (Continued)

ORDERING REFERENCE

Specify Plate Number G190, Reference Number, Description and Piece Number.

Ref. No.	Description	Piece No.
4G	Railroad Crossing Sign, Reflector Type, Vitreous Enamel, with Plain Embossed Letters on Back, for 5″ I.D. Pipe	3380–3AE
4H	Railroad Crossing Sign, Cast Iron Type, for 4″ I.D. Pipe (for Details see Pl. H10)	3320–14
4J	Railroad Crossing Sign, Cast Iron Type, for 5″ I.D. Pipe (For Details see Pl. H10)	3320–115
4K	Railway Crossing Sign, Cast Iron Type, for 4″ I.D. Pipe	3250–14
4L	Railway Crossing Sign, Cast Iron Type, for 5″ I.D. Pipe	3250–115
5	Extension Bracket (For Details see Pl. G222)	3366–40
6	Roadway Arm Complete, Wired for Three Gate Lights, Less Gate Lights (For Details see Pl. G200)	3565–34L
6A	Roadway Arm Complete, Less Wiring, Gate Lights and Reflector Buttons (For Details see Pl. G200)	3565–60
7	"Number of Tracks" Sign, Reflector Type, Vitreous Enamel, for 4″ I.D. Pipe, Specify Numeral (For Details see Pl. H30)	3368–3
7A	"Number of Tracks" Sign, Reflector Type, Vitreous Enamel, for 5″ I.D. Pipe, Specify Numeral (For Details see Pl. H30)	3368–3A
7B	"Number of Tracks" Sign, Reflector Type, Synthetic Enamel, for 4″ I.D. Pipe, Specify Numeral (For Details see Pl. H30)	3368–4
7C	"Number of Tracks" Sign, Reflector Type, Synthetic Enamel, for 5″ I.D. Pipe, Specify Numeral (For Details see Pl. H30)	3368–4A
7D	"Number of Tracks" Sign, Cast Iron Type, for 4″ I.D. Pipe, Specify Numeral (For Details see Pl. H16)	16442–14
7E	"Number of Tracks" Sign, Cast Iron Type, for 5″ I.D. Pipe, Specify Numeral (For Details see Pl. H16)	16442–15
8	Junction Box Cross Arm Assembly for Types 950–201 and HC-81 Lights (For Details see Pl. G220)	950–54
8A	Junction Box Cross Arm Assembly for Type XC Lights (For Details see Pl. G220)	950–54G
9	Flashing Light Unit with 30° Horizontal Spread, 15° Down Deflecting Roundel Unless Otherwise Specified. (For Details see Plate D370). Other Roundels Available are Listed Below	950–201
9A	Flashing Light Unit with 30° Horizontal Spread, 15° Down Deflecting Roundel Unless Otherwise Specified. (For Details see US&SCo. Cat. Plate K159). Other Roundels Available are Listed Below	HC–81
9B	Flashing Light Unit with 30° Spreadlite Roundel Unless Otherwise Specified. (For Details see GRSCo. Cat. Plate H2916 and H2918). Other Roundels Available are Listed Below	XC

WESTERN RAILROAD SUPPLY COMPANY

Detail Parts for Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES (Continued)

ORDERING REFERENCE
Specify Plate Number G190, Reference Number, Description and Piece Number.

Ref. No.	Description	Piece No.
10	"Stop On Red Signal" Sign, Vitreous Enamel, for 4" I.D. Pipe (For Details see Pl. H30)	3366–3
10A	"Stop On Red Signal" Sign, Vitreous Enamel, for 5" I.D. Pipe (For Details see Pl. H30)	3366–3A
10B	"Stop On Red Signal" Sign, Synthetic Enamel, for 4" I.D. Pipe (For Details see Pl. H30)	3366–4
10C	"Stop On Red Signal" Sign, Synthetic Enamel, for 5" I.D. Pipe (For Details see Pl. H30)	3366–4A
11	Extension Bracket (For Details see Pl. G222)	3366–140
12	Gate Arm Support (For Details see Pl. G210)	3565–105
13	Gate Support Arm (For Details see Pl. G214)	3565–101
14	Gate and Counterweight Arm Assembly (For Details see Pl. G212)	3565–103R
14A	Gate and Counterweight Arm Assembly (For Details see Pl. G212)	3565–103RX
15	Gate and Counterweight Arm Assembly (For Details see Pl. G212)	3565–102L
16	Pipe Mast, 5" I.D. x 13'0" Long	715–24
17	Junction Box Clamp Type Base (For Details see Pl. G224)	2149–11
17A	Junction Box Clamp Type Base (For Details see Pl. G224)	2149–11B
18	Anchor Bolts, 1" x 36" Long	11079
19	Sidewalk Arm Complete (Less Wiring) (For Details see Pl. G202)	3565–60SW
19A	Sidewalk Arm Complete, Wired for One Gate Light (For Details see Pl. G202)	3565–34SW
20	Junction Box Cross Arm Assembly for Types 950–201 and HC-81 Lights (For Details see Pl. G220)	950–74R
20A	Junction Box Cross Arm Assembly for Type XC Lights (For Details see Pl. G220)	950–74RG
21	Sidewalk Arm Bracket (For Details see Pl. G214)	3565–111
22	Pipe Mast, 5" I.D. x 6'0" Long	715–16
23	Junction Box Cross Arm Assembly for Types 950–201 and HC-81 Lights (For Details see Pl. G220)	950–5XX
23A	Junction Box Cross Arm Assembly for Type XC Lights (For Details see Pl. G220)	950–5XXG
24	Junction Box Cross Arm Assembly for Types 950–201 and HC-81 Lights (For Details see Pl. G220)	950–5
24A	Junction Box Cross Arm Assembly for Type XC Lights (For Details see Pl. G220)	950–5G

WESTERN RAILROAD SUPPLY COMPANY

Detail Parts for Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES (Continued)

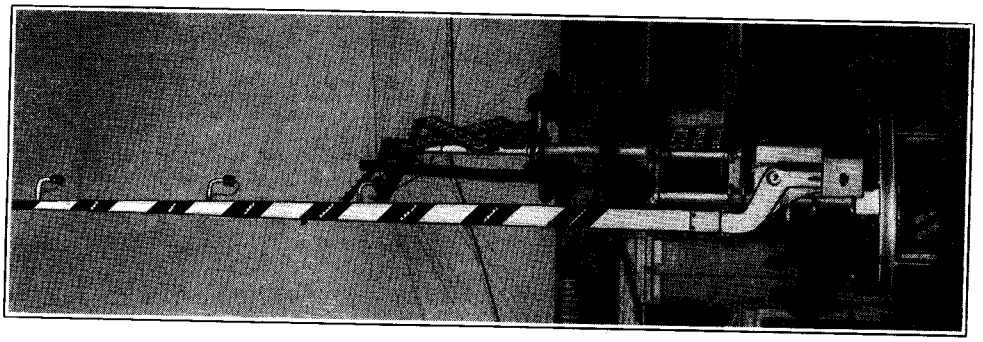
ORDERING REFERENCE
Specify Plate Number G190, Reference Number, Description and Piece Number.

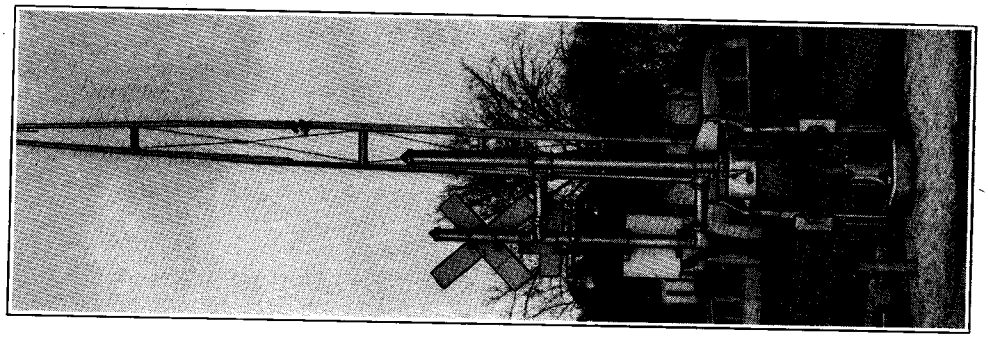
Ref. No.	Description	Piece No.
25	Sidewalk Arm Complete (Less Wiring) (For Details see Pl. G204).	3565–160SW
25A	Sidewalk Arm Complete, Wired for One Gate Light (For Details see Pl. G204)	3565–134SW
26	Sidewalk and Counterweight Support Arm (For Details see Pl. G216)	3561–99
27	Pipe Mast, 5″ I.D. x 4′6″ Long	715–42
28	Stop Bracket Assembly (For Details see Pl. G218)	3561–114
29	Gate Arm Support (For Details see Pl. G210)	3565–105X
30	Pipe Mast, 4″ I.D. x 7′10″ Long	714–3
31	Pipe Mast, 5″ I.D. x 8′6″ Long	715–6
32	Pipe Mast, 5″ I.D. x 8′6″ Long	715–46
33	Upper Supporting Bracket Assembly (For Details see Pl. G226).	3565–65
34	Lower Supporting Bracket Assembly (For Details see Pl. G226).	3565–67
35	Upper Supporting Bracket Assembly (For Details see Pl. G228).	3565–165–22
36	Lower Supporting Bracket Assembly (For Details see Pl. G228).	3565–167–22
37	Gate Arm Support (For Details see Pl. G210)	3565–205
38	Sidewalk Arm Complete, Wired for One Gate Light (For Details see Pl. G206)	3565–34SWX
39	Sidewalk Arm Complete (Less Wiring) (For Details see Pl. G206)	3565–60SWX
40	Junction Box Cross Arm Assembly for Types 950–201 and HC-81 Lights (For Details see Pl. G220)	950–84
40A	Junction Box Cross Arm Assembly for Type XC Lights (For Details see Pl. G220)	950–84G

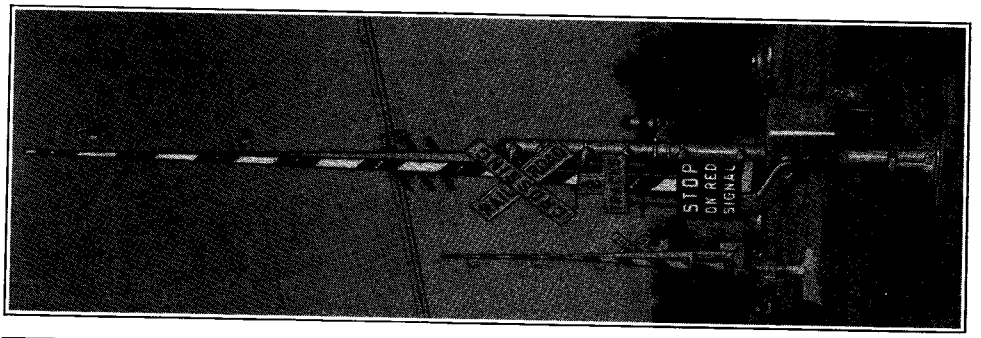
Note: Roundels Available for Flashing Light Units are:

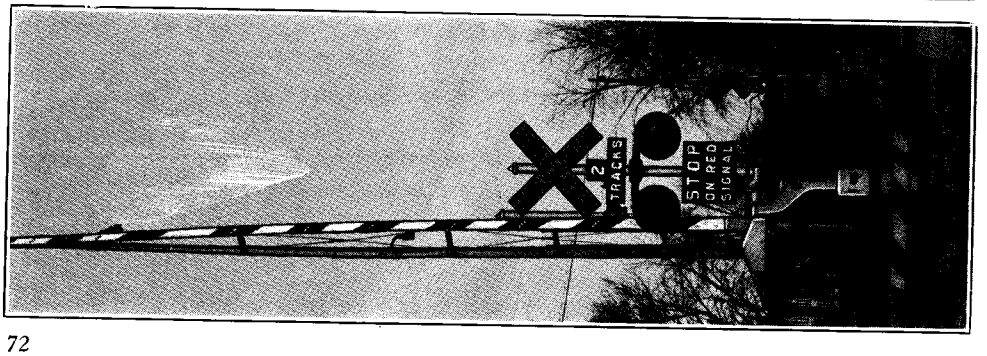
CL-17, 30° Horizontal Spread.
5319, 160° Horizontal Spread, 12° Down Deflection.
5321, 20° Deflecting.
5323, 30° Horizontal Spread, 15° Down Deflection.
5327, 20° Horizontal Spread, 32° Down Deflection.
5332, 70° Horizontal Spread.
5333, Diffusion-deflection Type, With Horizontal and Downward Spread.

Some Typical Assemblies With Flashing Lights Arranged To Meet Special Conditions

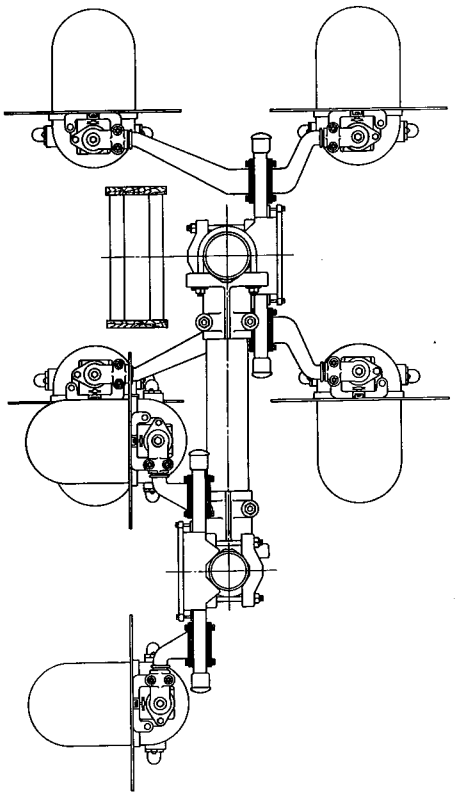


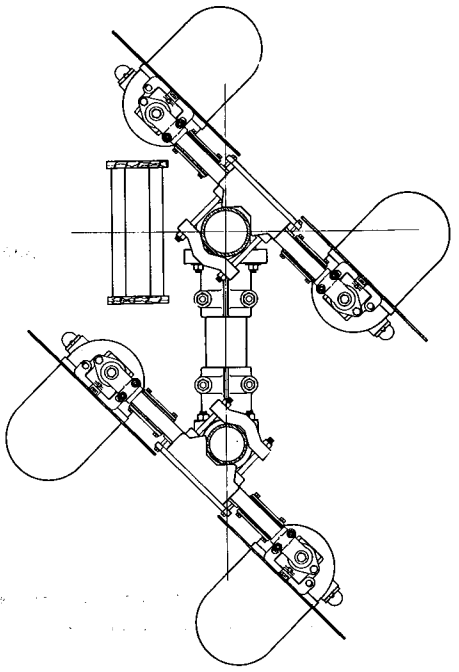


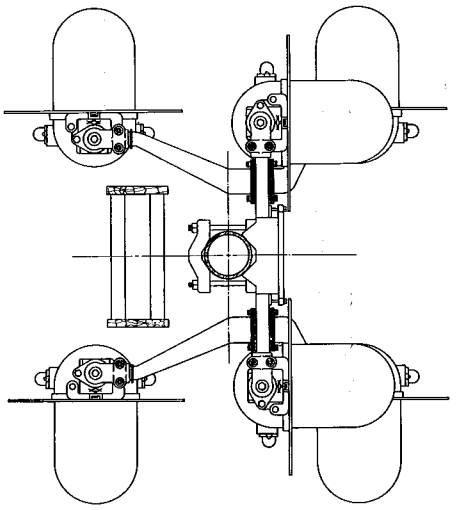


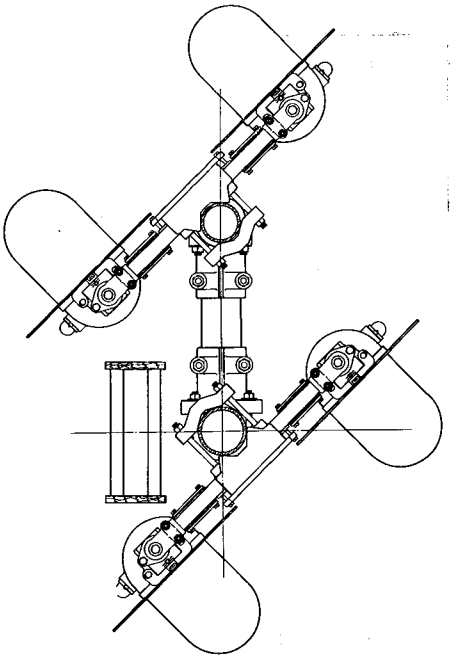


Typical Special Flashing Light Arrangements

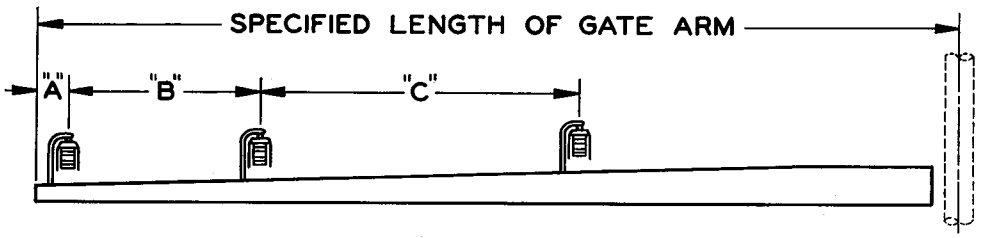








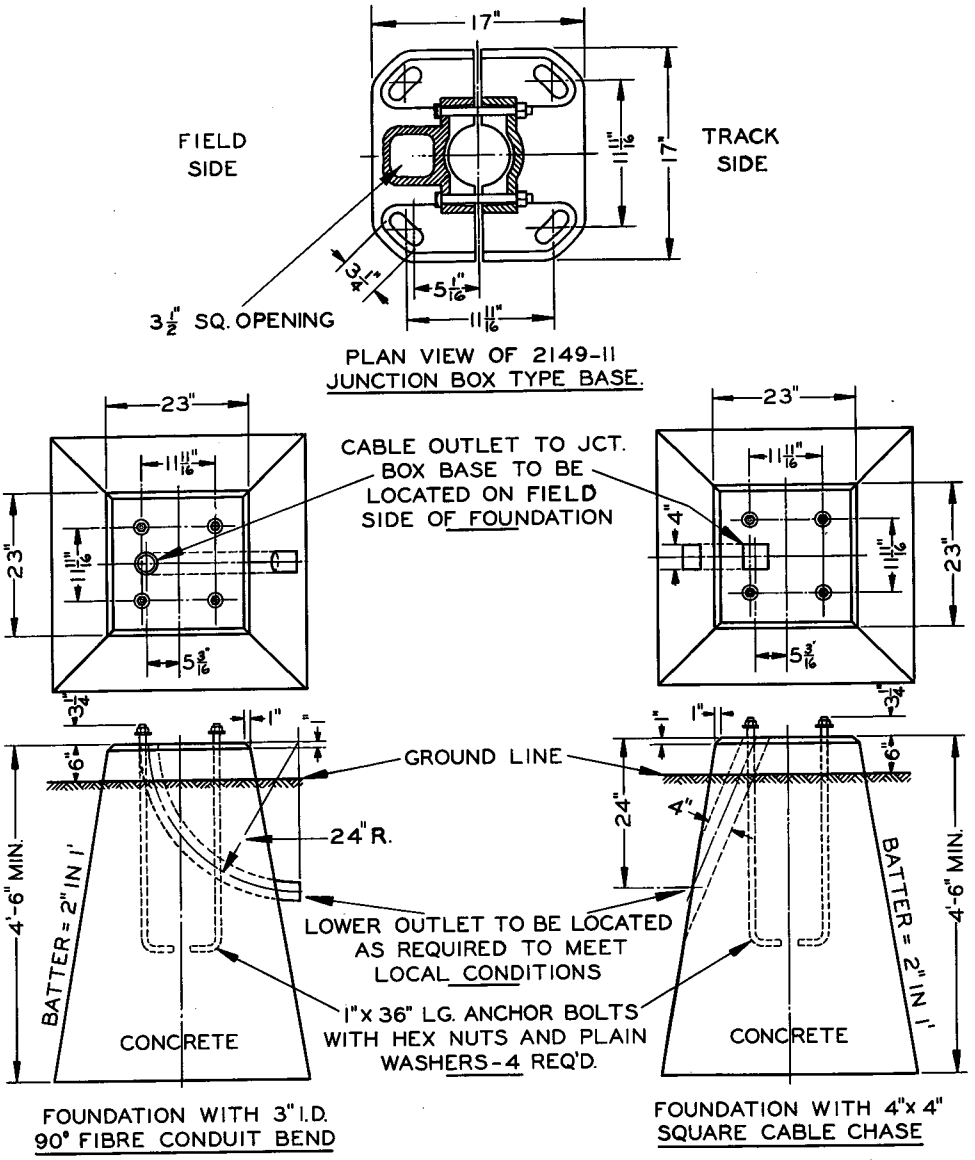
Suggested Roadway Gate Arm Light Spacing



Unless other spacing is specified, gate arms will be furnished with lights spaced as shown in the following table:

Specified Length of Gate Arm	Dimension "A"	Dimension "B"	Dimension "C"
14 Ft.	6″	36″	5′–0″
15 Ft.	18″	36″	5′–0″
16 Ft.	24″	36″	5′–0″
17 Ft.	24″	36″	5′–0″
18 Ft.	28″	41″	5′–0″
19 Ft.	28″	41″	5′–0″
20 Ft.	28″	4′–0″	5′–0″
21 Ft.	28″	4′–0″	5′–0″
22 Ft.	28″	4′–0″	5′–0″
23 Ft.	28″	4′–0″	5′–0″
24 Ft.	28″	5′–0″	5′–0″
25 Ft.	28″	5′–0″	5′–0″
26 Ft.	28″	5′–0″	5′–0″
27 Ft.	28″	5′–0″	5′–0″
28 Ft.	28″	5′–0″	5′–0″
29 Ft.	36″	6′–0″	6′–0″
30 Ft.	36″	6′–0″	6′–0″
31 Ft.	36″	6′–0″	6′–0″
32 Ft.	36″	7′–6″	7′–6″
33 Ft.	36″	7′–6″	7′–6″
34 Ft.	36″	7′–6″	7′–6″
35 Ft.	36″	9′–0″	9′–0″
36 Ft.	36″	9′–0″	9′–0″
37 Ft.	36″	9′–0″	9′–0″
38 Ft. and Over	36″	10′–0″	10′–0″

Suggested Foundation Designs For Model 10 Signals Using No. 2149-11 Junction Box Type Base


17"
FIELD SIDE
TRACK SIDE
17"
3½" SQ. OPENING
PLAN VIEW OF 2149-11 JUNCTION BOX TYPE BASE.
23"
CABLE OUTLET TO JCT. BOX BASE TO BE LOCATED ON FIELD SIDE OF FOUNDATION
4"
GROUND LINE
24" R.
LOWER OUTLET TO BE LOCATED AS REQUIRED TO MEET LOCAL CONDITIONS
1"x 36" LG. ANCHOR BOLTS WITH HEX NUTS AND PLAIN WASHERS-4 REQ'D.
4'-6" MIN.
BATTER = 2" IN 1'
CONCRETE
24"
FOUNDATION WITH 3" I.D. 90° FIBRE CONDUIT BEND
FOUNDATION WITH 4"x 4" SQUARE CABLE CHASE

Catalog Section G, Part No. 1
Issue of 1950

3M—1950

Section
G
PART No. 2

Model 10
Highway Crossing Signal
Replacement Parts

WESTERN RAILROAD SUPPLY COMPANY

DIVISION OF WESTERN INDUSTRIES, INC.

MANUFACTURERS

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Issue of 1951

SECTION G, PART NO. 2

Model 10 Highway Crossing Signal

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GENERAL INFORMATION

This catalog section contains descriptive data and ordering references for Model 10 Highway Crossing Signal parts that are not detailed in Catalog Section G, Part No. 1.

Plates No. G200 to No. G238 inclusive, pertain to Model 10 Highway Crossing Signals of current production, equipped with Type 3564 or Type 3566 mechanisms.

Plates No. G240 to No. G252 inclusive, cover replacement parts for an earlier type Model 10 Highway Crossing Signal equipped with Type 3562 or Type 3563 mechanisms.

Plates No. G254 to No. G260 inclusive, cover replacement parts for the original type of Model 10 Highway Crossing Signal equipped with Type 3561 mechanism.

Plates No. G200 to No. G238

Replacement Parts for

Model 10
Highway Crossing Signal

Equipped with Type 3564 or Type 3566 Mechanism

See Section G, Part No. 4 For Type 3564 Mechanism Replacement Parts

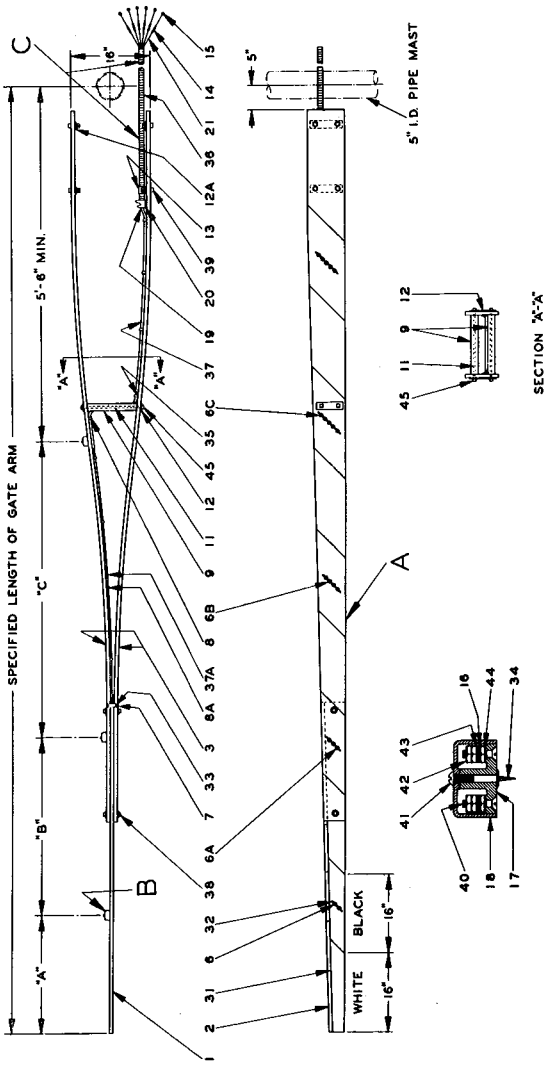
See Section G, Part No. 6 For Type 3566 Mechanism Replacement Parts

WESTERN RAILROAD SUPPLY COMPANY

Roadway Arms 14' to 18' Long For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown On
Plates G150, G155, G160, G165, G170 and G175

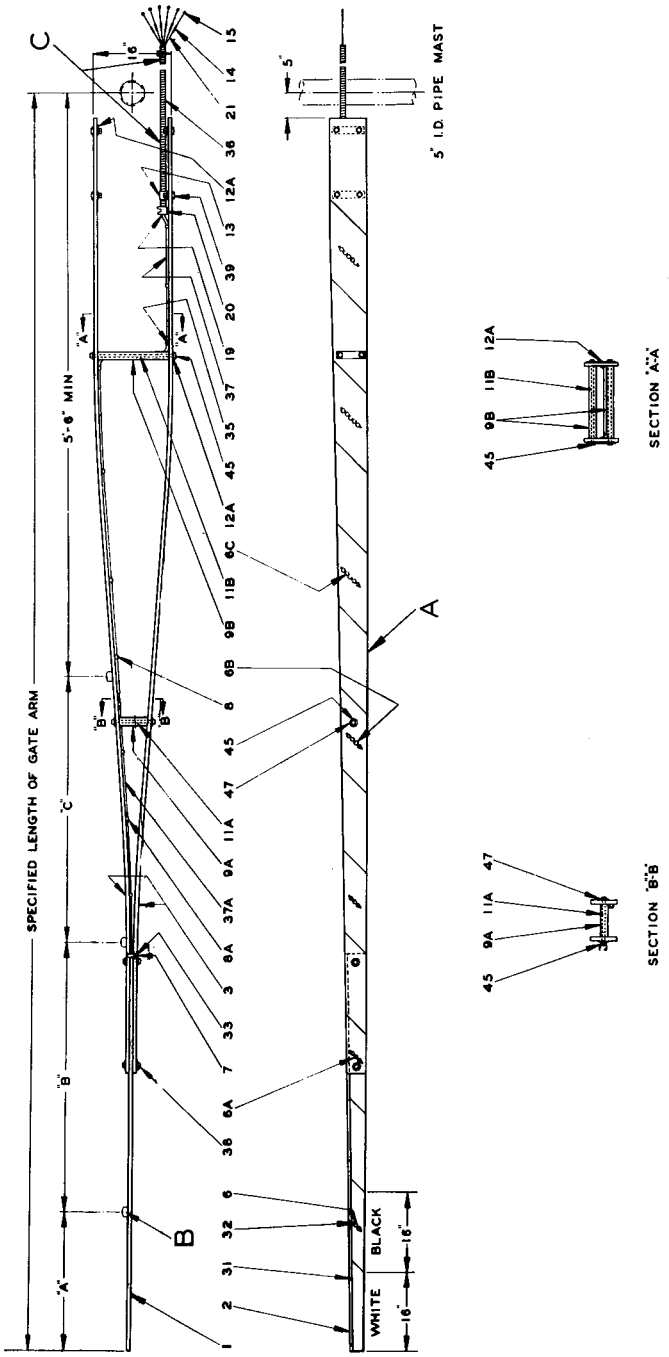


For Ordering Reference Data, See Pages 14 to 17.

Roadway Arms 19' to 24' Long
For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown On
Plates G150, G155, G160, G165, G170 and G175

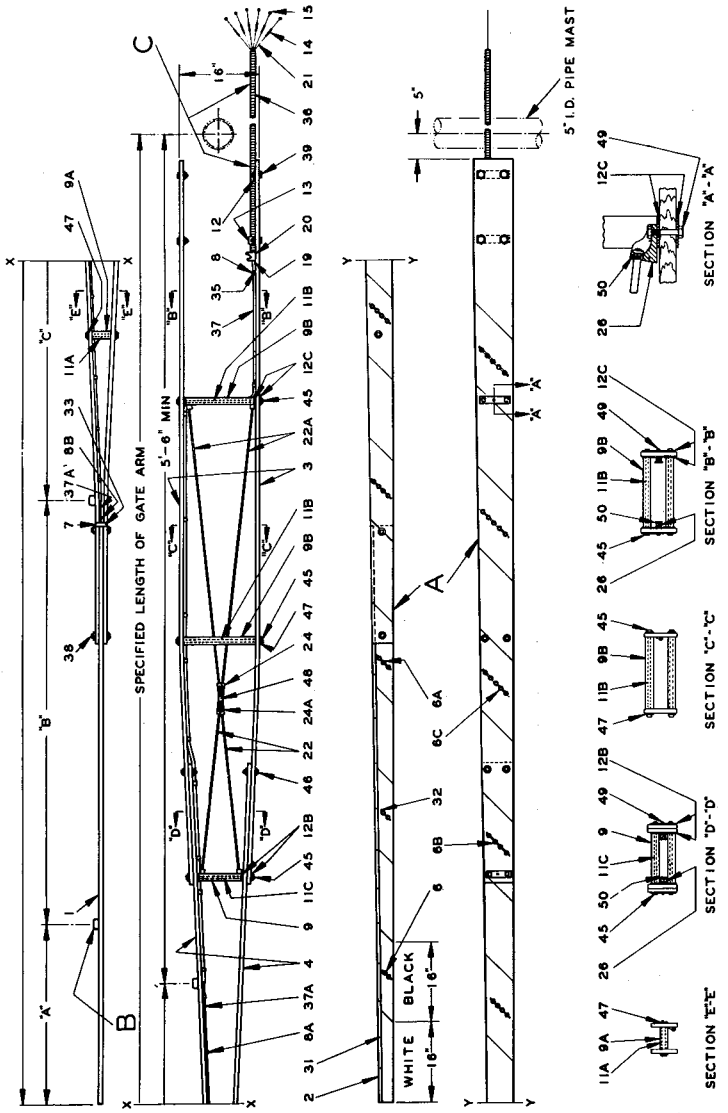


For Ordering Reference Data, See Pages 14 to 17.

Roadway Arms 25' to 30' Long For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown On
Plates G151, G156, G161, G166, G171 and G176



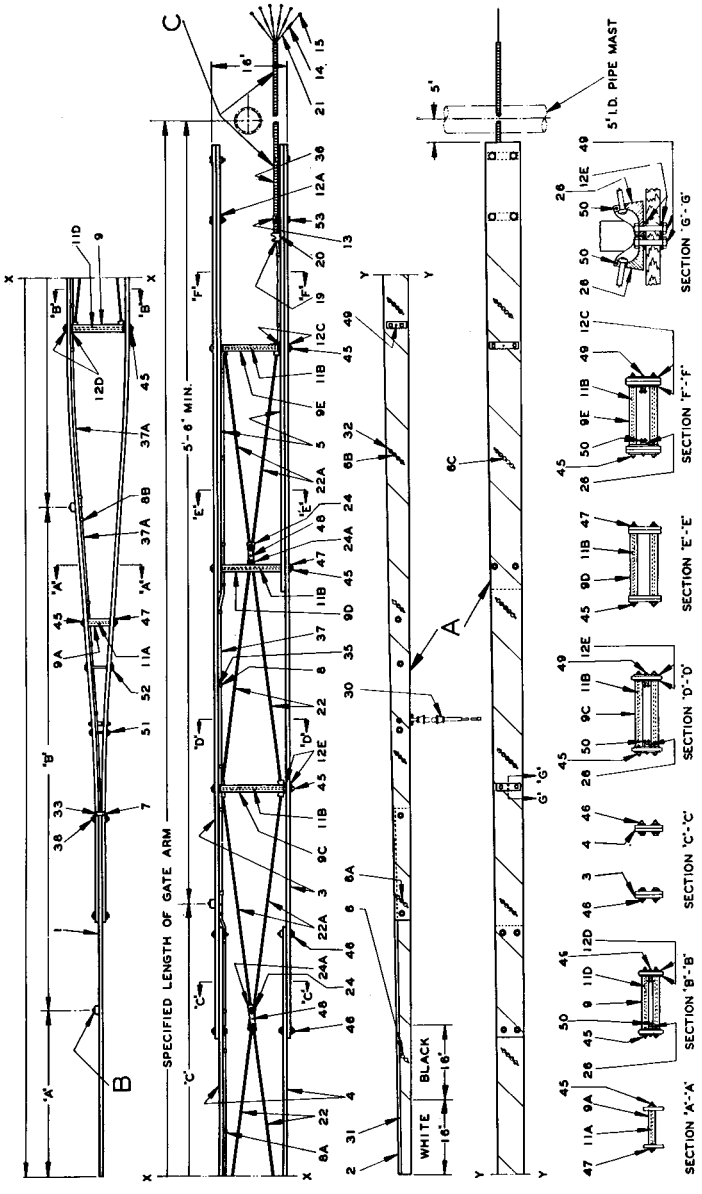
For Ordering Reference Data, See Pages 14 to 17.

WESTERN RAILROAD SUPPLY COMPANY

Roadway Arms 31' to 38' Long For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown On
Plates G152, G157, G162, G167, G172 and G177



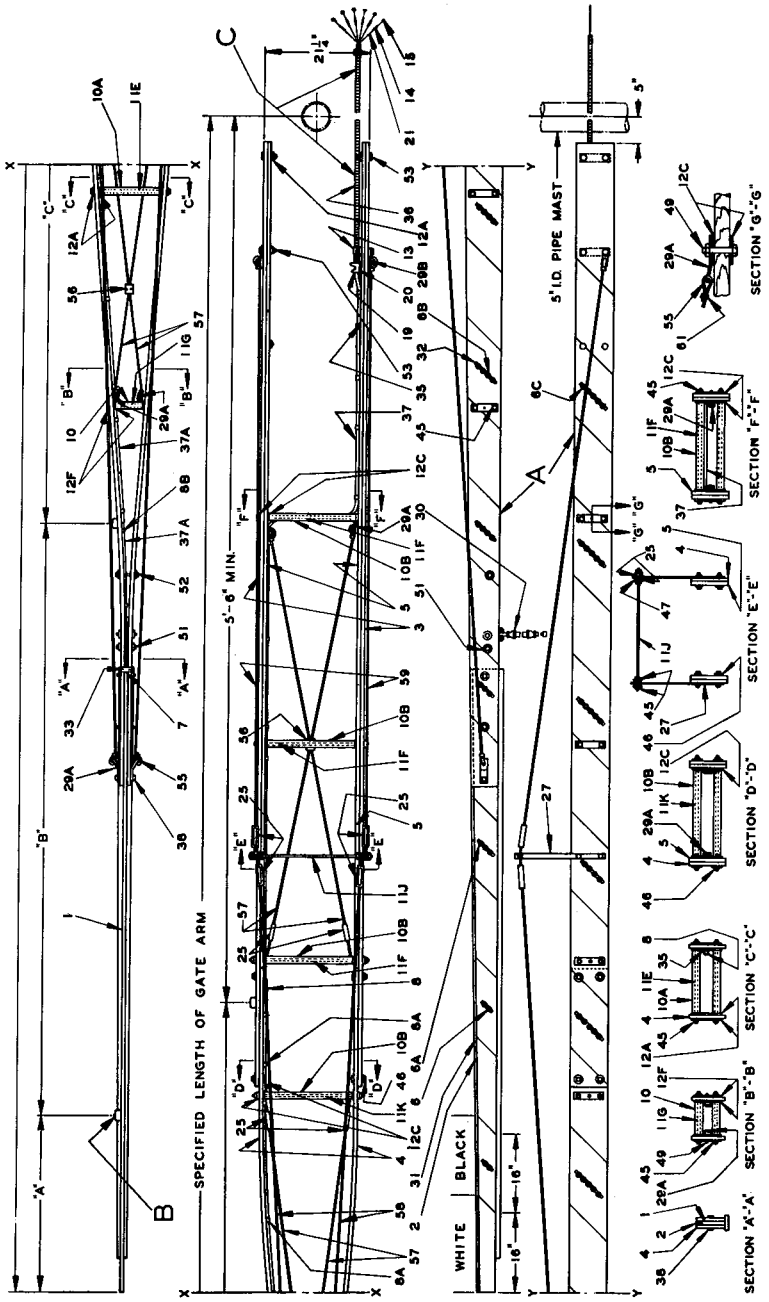
For Ordering Reference Data, See Pages 14 to 17.

WESTERN RAILROAD SUPPLY COMPANY

Roadway Arms 39' to 44' Long For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown On
Plates G153, G158, G163 and G168



For Ordering Reference Data, See Pages 14 to 17.

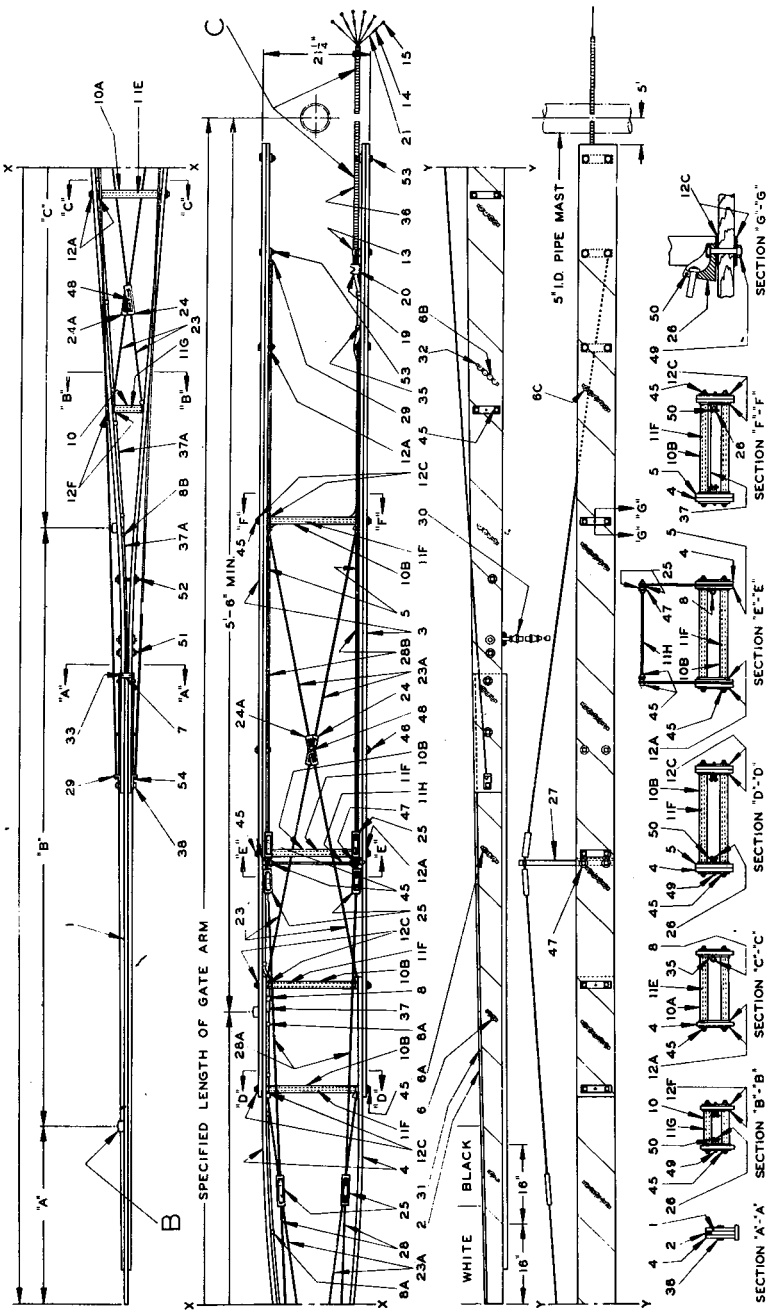
WESTERN RAILROAD SUPPLY COMPANY

Roadway Arms 39' to 44' Long

REPLACEMENT PARTS ONLY

This Design Discontinued 4-16-51

Superseded by Design Illustrated on Page 12



For Ordering Reference Data, See Pages 14 to 17.

Roadway Arms
For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

ORDERING REFERENCE

Specify Plate No. G200, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Assembly of Roadway Arm Complete with Wiring and Reflector Buttons. (Less Gate Lights) (Specify Length of Roadway Arm and Dimensions "A", "B", "C")	3565-34L
A1	Assembly of Roadway Arm Complete, Less Wiring, Reflector Buttons and Reinforcing Channel. (Specify Length of Roadway Arm)	3565-60
B	Assembly of Terminal Block Complete	3561-196
C	Wiring Harness Only (Includes all Material Necessary for Wiring Roadway Arm for Three Gate Lights) (Specify Length of Roadway Arm and Dimensions "A", "B", "C")	3565-215
1	Tongue (See Table, Page 17)	
2	Re-enforcing Channel (See Table, Page 17)	
3	Base Board (See Table, Page 17)	
4	Side Board (See Table, Page 17)	
5	Re-enforcing Board (See Table, Page 17)	
6	Crystal Reflector Buttons (2 Button Chain)	3562-170-2
6A	Crystal Reflector Buttons (3 Button Chain)	3562-170-3
6B	Crystal Reflector Buttons (4 Button Chain)	3562-170-4
6C	Crystal Reflector Buttons (5 Button Chain)	3562-170-5
7	Channel Retaining Strip	3561-154
8	Clip for 5/8" Loom	3562-96
8A	Clip for 1/2" Loom	3562-95
8B	Clip for 7/32" Loom	3562-94
9	Spacer Block 10 1/8" Long	3562-75
9A	Spacer Block 4" Long	3562-76
9B	Spacer Block 14 3/8" Long	3562-74
9C	Spacer Block 14 1/8" Long	3562-87
9D	Spacer Block 13" Long	3562-74XR
9E	Spacer Block 12 3/4" Long	3562-74R
10	Spacer Tubing 7" Long	3562-99B
10A	Spacer Tubing 13 1/4" Long	3562-99A
10B	Spacer Tubing 17 3/4" Long	3562-99
11	Through Stud 12 1/2" Long	3562-66C
11A	Through Stud 6 1/2" Long	3562-66D
11B	Through Stud 16 7/8" Long	3562-66
11C	Through Stud 14 3/8" Long	3562-66B
11D	Through Stud 12 3/4" Long	3562-66E
11E	Through Stud 16" Long	3562-66X
11F	Through Stud 21 3/4" Long	3562-66Y
11G	Through Stud 10 1/8" Long	3562-66F
11H	Through Stud 21 1/2" Long	3562-272
11J	Through Stud 24" Long	3562-272B

Roadway Arms
For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS
(Continued)

ORDERING REFERENCE

Specify Plate No. G200, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
11K	Through Stud 20¼″ Long	3562-66N
12	Washer Plate	3562-72
12A	Washer Plate	3562-71
12B	Washer Plate	3562-72A
12C	Washer Plate	3562-71A
12D	Washer Plate	3562-82
12E	Washer Plate	3562-72B
12F	Washer Plate	3562-273
13	Hanger for Flexible Conduit	3565-153
14	Marking Tag	5600-6
15	Wire Terminal	31906
16	Wire Terminal	31903
17	Terminal Block Only (For Ref. B)	3561-197A
18	Terminal Block Cover Only (For Ref. B)	3561-198
19	Internal Bushing	3565-197
20	Conduit Clamp	3565-194A
21	Wire No. 14, 2/64, 30% S.C. Flex. S.B., W.P. Finish, [19]/.0147 (Specify Length)	90913
22	Tie Rod and Nut 41½″ Long—Right Hand Thread	3562-63E
22A	Tie Rod and Nut 48″ Long—Left Hand Thread	3562-63F
23	Tie Rod and Nut 46″ Long—Left Hand Thread	3562-63Q
23A	Tie Rod and Nut 46″ Long—Right Hand Thread	3562-63R
24	Turnbuckle	3562-67
24A	Turnbuckle	3562-68
25	Turnbuckle	3562-184
26	Tie Rod Clip	3562-70A
27	Upright Support	3562-271
28	Guy Rod	3562-276
28A	Guy Rod	3562-274
28B	Guy Rod	3562-275
29	Bracket	3562-270
29A	Guy Wire Clip	3562-283
29B	Guy Wire Clip	3562-283A
30	Buffer Leg Assembly	3562-316
31	Wood Screw No. 6 x ⅝″ Lg. Rd. Hd. Brass	
32	Wood Screw No. 6 x ½″ Lg. Theft Resisting	
33	Wood Screw No. 8 x ⅝″ Lg. Rd. Hd. Brass	
34	Wood Screw No. 6 x ¾″ Lg. Fl. Hd. Brass	
35	Wood Screw No. 12 x ¾″ Lg. Rd. Hd. Brass	
36	Penflex Metallic Tubing ¾″ x 54″ Lg.	3562-186
37	⅝″ Duroduct Loom (Specify Length)	
37A	½″ Duroduct Loom (Specify Length)	

Roadway Arms
For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS
(Continued)

ORDERING REFERENCE

Specify Plate No. G200, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
38	Mach. Bolt 3/8"-16 x 3" Lg. Sq. Hd. Steel, Hex. Nut and Two Plain Washers	
39	Mach. Bolt 1/2"-13 x 2" Lg. Hex. Hd. Steel, Hex. Nut and Lock Washer	
40	Mach. Screw No. 10-32 x 7/8" Lg. Fl. Hd. Brass	
41	Mach. Screw No. 10-32 x 1/2" Lg. Rd. Hd. Brass	
42	Hex. Nut No. 10-32 Brass	
43	Washer No. 10 Plain, Brass	
44	Washer No. 10 Internal Everlock	
45	Hex. Nut 3/8"-16, Steel	
46	Mach. Bolt 3/8"-16 x 2 1/4" Lg. Sq. Hd. Steel, Hex. Nut and Two Plain Washers	
47	Washer 7/16" I. D. x 1 1/2" O.D. Plain, Steel	
48	Cap Screw 1/4"-20 x 1 1/4" Lg. Hex. Hd. Steel	
49	Mach. Bolt 5/16"-18 x 1 3/4" Lg. Hex. Hd. Steel and Hex. Nut	
50	Cotter Pin 1/8" x 1 1/2" Lg. Steel	
51	Mach. Bolt 3/8"-16 x 3 1/2" Lg. Sq. Hd. Steel, Hex. Nut and Two Plain Washers	
52	Mach. Bolt 3/8"-16 x 5 1/2" Lg. Sq. Hd. Steel, Hex. Nut and Two Plain Washers	
53	Mach. Bolt 1/2"-13 x 2 3/4" Lg. Hex. Hd. Steel, Hex. Nut and Lock Washer	
54	Sq. Nut 5/16"-18 Steel	
55	Thimble	90591
56	Cable Clamp Subassembly	3562-282
57	Guy Wire Subassembly, 7'6" Lg. (Includes Items 25, 55 and 61).	3562-284B
58	Guy Wire Subassembly, 18'0" Lg. (Includes Items 25, 55 and 61).	3562-284A
59	Guy Wire Subassembly, 10'0" Lg. (Includes Items 25, 55 and 61).	3562-284
60	Crosby Clip	90592

NOTE: WHEN ORDERING BASE BOARDS, REF. 3, OR SIDE BOARDS, REF. 4, SPECIFY WHETHER FOR USE ON "FIELD" SIDE OR "TRACK" SIDE OF GATE ARM, AND LENGTH OF GATE ARM ON WHICH BOARD IS TO BE USED.

Ordering Reference Table

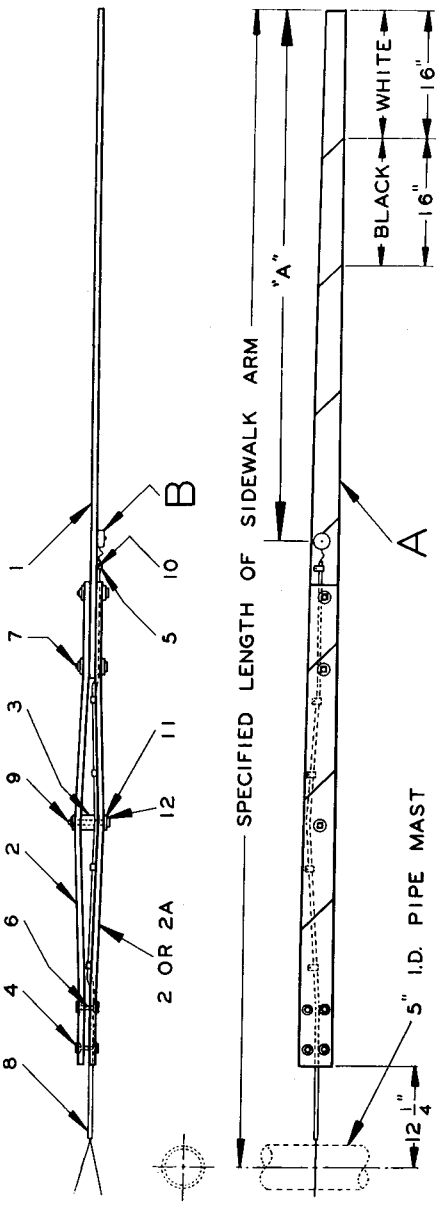
	Specified Length of Gate Arm	Ref. 1 Tongue	Ref. 2 Reenforcing Channel	Ref. 3 Base Board	Ref. 4 Side Board	Ref. 5 Reenforcing Board
For Roadway Arms Illustrated On Page 8	14 Ft.	3562-52E	3561-64B	3562-51-12	.....	.....
	15 Ft.	3562-52F	3561-64B	3562-51-12	.....	.....
	16 Ft.	3562-52	3561-64B	3562-51-12	.....	.....
	17 Ft.	3562-52A	3561-64	3562-51-12	.....	.....
	18 Ft.	3562-52B	3561-64	3562-51-12	.....	.....
For Roadway Arms Illustrated On Page 9	19 Ft.	3562-52A	3561-64	3562-51-14	.....	.....
	20 Ft.	3562-52B	3561-64	3562-51-14	.....	.....
	21 Ft.	3562-52C	3561-64C	3562-51-14	.....	.....
	22 Ft.	3562-52B	3561-64	3562-51-16	.....	.....
	23 Ft.	3562-52C	3561-64C	3562-51-16	.....	.....
	24 Ft.	3562-52D	3561-63	3562-51-16	.....	.....
For Roadway Arms Illustrated On Page 10	25 Ft.	3562-52A	3561-64	3562-53-12	3562-54-10	.....
	26 Ft.	3562-52B	3561-64	3562-53-12	3562-54-10	.....
	27 Ft.	3562-52C	3561-64C	3562-53-12	3562-54-10	.....
	28 Ft.	3562-52D	3561-63	3562-53-12	3562-54-10	.....
	29 Ft.	3562-52C	3561-64C	3562-53-12A	3562-54-12	.....
	30 Ft.	3562-52D	3561-63	3562-53-12A	3562-54-12	.....
For Roadway Arms Illustrated On Page 11	31 Ft.	3562-52A	3561-64	3562-53-16	3562-54-12A	3562-53-8
	32 Ft.	3562-52B	3561-64	3562-53-16	3562-54-12A	3562-53-8
	33 Ft.	3562-52C	3561-64C	3562-53-16	3562-54-12A	3562-53-8
	34 Ft.	3562-52D	3561-63	3562-53-16	3562-54-12A	3562-53-8
	35 Ft.	3562-52A	3561-64	3562-53-16A	3562-54-16	3562-53-8
	36 Ft.	3562-52B	3561-64	3562-53-16A	3562-54-16	3562-53-8
	37 Ft.	3562-52C	3561-64C	3562-53-16A	3562-54-16	3562-53-8
	38 Ft.	3562-52D	3561-63	3562-53-16A	3562-54-16	3562-53-8
For Roadway Arms Illustrated On Page 12	39 Ft.	3562-52J	3561-64A	3562-53-16F	3562-54-16A	3562-54-14E
	40 Ft.	3562-52K	3561-64A	3562-53-16F	3562-54-16A	3562-54-14E
	41 Ft.	3562-52L	3561-64D	3562-53-16F	3562-54-16A	3562-54-14E
	42 Ft.	3562-52M	3561-64D	3562-53-16F	3562-54-16A	3562-54-14E
	43 Ft.	3562-52N	3561-64E	3562-53-16F	3562-54-16A	3562-54-14E
	44 Ft.	3562-52P	3561-64E	3562-53-16F	3562-54-16A	3562-54-14E
For Roadway Arms Illustrated On Page 13	39 Ft.	3562-52J	3561-64A	3562-53-16B	3562-54-16A	3562-54-12B
	40 Ft.	3562-52K	3561-64A	3562-53-16B	3562-54-16A	3562-54-12B
	41 Ft.	3562-52L	3561-64D	3562-53-16B	3562-54-16A	3562-54-12B
	42 Ft.	3562-52M	3561-64D	3562-53-16B	3562-54-16A	3562-54-12B
	43 Ft.	3562-52N	3561-64E	3562-53-16B	3562-54-16A	3562-54-12B
	44 Ft.	3562-52P	3561-64E	3562-53-16B	3562-54-16A	3562-54-12B

WESTERN RAILROAD SUPPLY COMPANY

Sidewalk Arms 6' to 18' Long
For Model 10 Signals
Type 3565-34SW Type 3565-60SW

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown On
Plates G155 to G158, G165 to G168 and G175 to G177



WESTERN RAILROAD SUPPLY COMPANY

Sidewalk Arms 6' to 18' Long For Model 10 Signals

Type 3565-34SW Type 3565-60SW

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on
Plates G155 to G158, G165 to G168 and G175 to G177

ORDERING REFERENCE

Specify Plate G202, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Assembly of Sidewalk Arm Complete with Wiring (Less Light) (Specify Length of Sidewalk Arm and Dimension "A")	3565-34SW
A-1	Assembly of Sidewalk Arm Complete (Less Wiring and Light) (Specify Length of Sidewalk Arm)	3565-60SW
B	Assembly of Terminal Block (See Plate G200 for Details)	3561-196
1	Tongue (See Table)	
2	Base Board (See Table)	
2A	Base Board (See Table) (For 3565-34SW only)	
3	Spacer Block	3565-150
4	Cup Washer	3565-71
5	Clip	3562-95
6	Cap Screw, 5/16"-24 S.A.E. x 1½" Lg. Hex. Hd. Steel	
7	Mach. Bolt ⅜"-16 x 3¼" Lg. Sq. Hd. Steel Hex. Nut and Two Plain Washers	
8	#18-2 Conductor Neoprene Covered Type "S" Cord. (Specify Length)	
9	Through Stud	3562-66DD
10	Wood Screw #10 x ¾" Lg. Rd. Hd. Brass	
11	Washer ⅜" Plain, Steel	
12	Hex. Nut ⅜"-16 Steel	

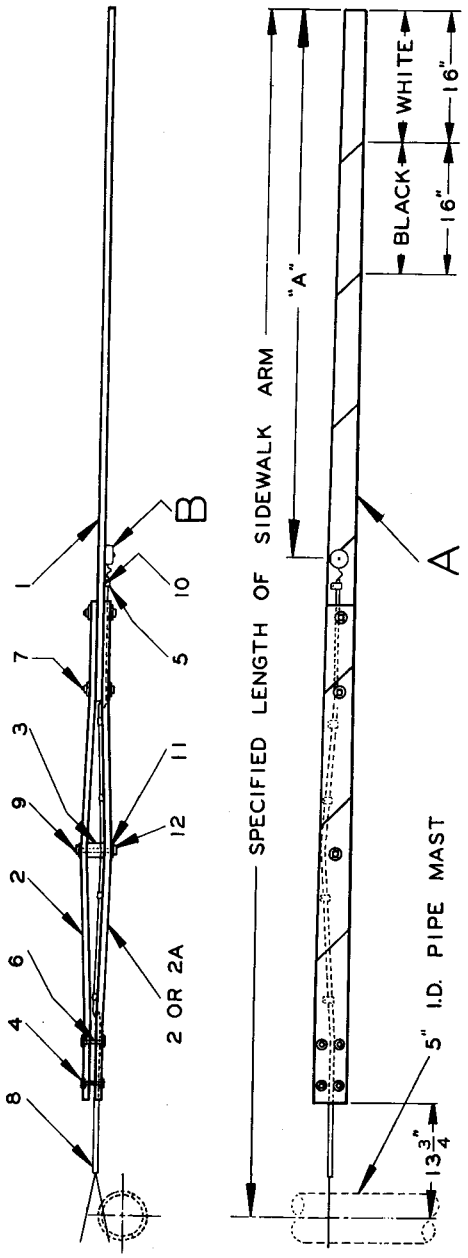
Table

Specified Length of Gate Arm	Ref. No. 1	Ref. No. 2	Ref. No. 2A	Suggested Values For Dimension "A"
6'-0"	3565-142-1	3565-141	3565-141A	2'-2"
6'-6"	3565-142-1A	3565-141	3565-141A	2'-5"
7'-0"	3565-142-2	3565-141	3565-141A	2'-8"
7'-6"	3565-142-2A	3565-141	3565-141A	2'-11"
8'-0"	3565-142-3	3565-141	3565-141A	3'-2"
8'-6"	3565-142-3A	3565-141	3565-141A	3'-5"
9'-0"	3565-142-4	3565-141	3565-141A	3'-8"
9'-6"	3565-142-4A	3565-141	3565-141A	3'-11"
10'-0"	3565-142-5	3565-141	3565-141A	4'-2"
10'-6"	3565-142-5A	3565-141	3565-141A	4'-5"
11'-0"	3565-142-6	3565-141	3565-141A	4'-8"
11'-6"	3565-142-6A	3565-141	3565-141A	4'-11"
12'-0"	3565-142-7	3565-141	3565-141A	5'-2"
12'-6"	3565-142-4A	3565-155	3565-155A	5'-5"
13'-0"	3565-142-5	3565-155	3565-155A	5'-8"
13'-6"	3565-142-5A	3565-155	3565-155A	5'-11"
14'-0"	3565-142-6	3565-155	3565-155A	6'-2"
14'-6"	3565-142-6A	3565-155	3565-155A	6'-5"
15'-0"	3565-142-7	3565-155	3565-155A	6'-8"
15'-6"	3565-142-4A	3565-156	3565-156A	6'-11"
16'-0"	3565-142-5	3565-156	3565-156A	7'-2"
16'-6"	3565-142-5A	3565-156	3565-156A	7'-5"
17'-0"	3565-142-6	3565-156	3565-156A	7'-8"
17'-6"	3565-142-6A	3565-156	3565-156A	7'-11"
18'-0"	3565-142-7	3565-156	3565-156A	8'-2"

WESTERN RAILROAD SUPPLY COMPANY

Sidewalk Arms 6' to 18' Long
For Model 10 Signals
Type 3565-134SW Type 3565-160SW

ASSEMBLIES AND REPLACEMENT PARTS
For Signal Assemblies Shown on Plate G185



WESTERN RAILROAD SUPPLY COMPANY

Sidewalk Arms 6' to 18' Long For Model 10 Signals

Type 3565-134SW Type 3565-160SW

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G185

ORDERING REFERENCE

Specify Plate G204, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Assembly of Sidewalk Arm Complete with Wiring (Less Light) (Specify Length of Sidewalk Arm and Dimension "A")	3565-134SW
A-1	Assembly of Sidewalk Arm Complete (Less Wiring and Light) (Specify Length of Sidewalk Arm)	3565-160SW
B	Assembly of Terminal Block (See Plate G-200 for Details)	3561-196
1	Tongue (See Table)	
2	Base Board (See Table)	
2A	Base Board (See Table) (For 3565-134SW Only)	
3	Spacer Block	3565-150
4	Cup Washer	3565-71
5	Clip	3562-95
6	Cap Screw, 5/16"-24 S.A.E. x 1¾" Lg. Hex. Hd. Steel	
7	Mach. Bolt ⅜"-16 x 3¼" Lg. Sq. Hd. Steel, Hex. Nut and Two Plain Washers	
8	#18-2 Conductor Neoprene Covered Type "S" Cord (Specify Length)	
9	Through Stud	3562-66DD
10	Wood Screw #10 x ¾" Lg. Brass	
11	Washer ⅜" Plain, Steel	
12	Hex. Nut ⅜"-16 Steel	

Table

Specified Length of Gate Arm	Ref. No. 1	Ref. No. 2	Ref. No. 2A	Suggested Values For Dimension "A"
6'-0"	3565-142-1	3565-141	3565-141A	2'-2"
6'-6"	3565-142-1A	3565-141	3565-141A	2'-5"
7'-0"	3565-142-2	3565-141	3565-141A	2'-8"
7'-6"	3565-142-2A	3565-141	3565-141A	2'-11"
8'-0"	3565-142-3	3565-141	3565-141A	3'-2"
8'-6"	3565-142-3A	3565-141	3565-141A	3'-5"
9'-0"	3565-142-4	3565-141	3565-141A	3'-8"
9'-6"	3565-142-4A	3565-141	3565-141A	3'-11"
10'-0"	3565-142-5	3565-141	3565-141A	4'-2"
10 -6"	3565-142-5A	3565-141	3565-141A	4'-5"
11 -0"	3565-142-6	3565-141	3565-141A	4'-8"
11 -6"	3565-142-6A	3565-141	3565-141A	4'-11"
12 -0"	3565-142-7	3565-141	3565-141A	5'-2"
12'-6"	3565-142-4A	3565-155	3565-155A	5'-5"
13'-0"	3565-142-5	3565-155	3565-155A	5'-8"
13'-6"	3565-142-5A	3565-155	3565-155A	5'-11"
14'-0"	3565-142-6	3565-155	3565-155A	6'-2"
14'-6"	3565-142-6A	3565-155	3565-155A	6'-5"
15'-0"	3565-142-7	3565-155	3565-155A	6'-8"
15'-6"	3565-142-4A	3565-156	3565-156A	6'-11"
16'-0"	3565-142-5	3565-156	3565-156A	7'-2"
16'-6"	3565-142-5A	3565-156	3565-156A	7'-5"
17'-0"	3565-142-6	3565-156	3565-156A	7'-8"
17'-6"	3565-142-6A	3565-156	3565-156A	7'-11"
18'-0"	3565-142-7	3565-156	3565-156A	8'-2"

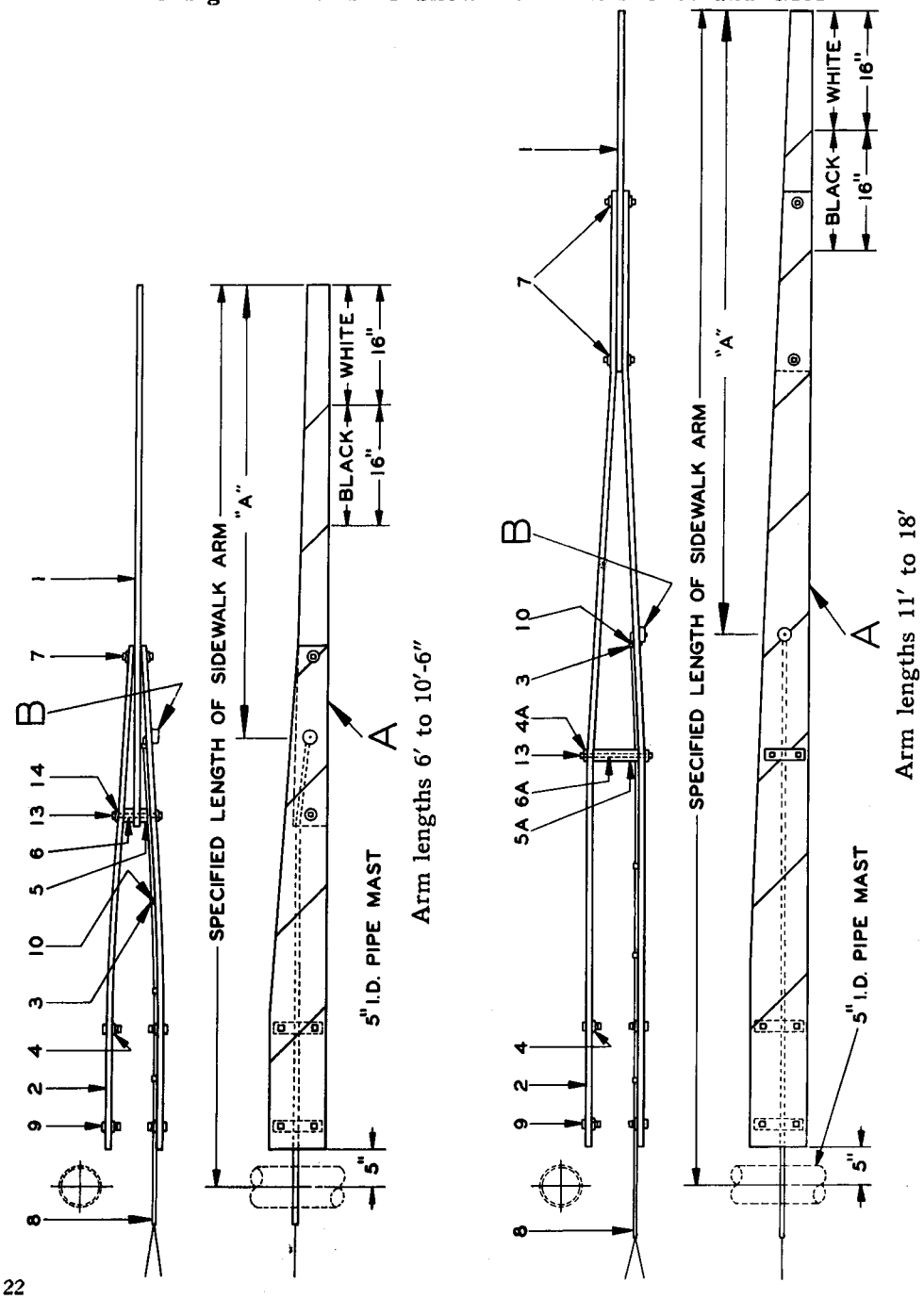
WESTERN RAILROAD SUPPLY COMPANY

Sidewalk Arms 6' to 18' Long For Model 10 Signals

Type 3565-34SWX Type 3565-60SWX

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown On Plates G180 and G181



WESTERN RAILROAD SUPPLY COMPANY

Sidewalk Arms 6' to 18' Long For Model 10 Signals Type 3565-34SWX Type 3565-60SWX

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plates G180 and G181

ORDERING REFERENCE

Specify Plate G206, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Assembly of Sidewalk Arm Complete with Wiring (Less Light) (Specify Length of Sidewalk Arm and Dimension "A")	3565-34SWX
A-1	Assembly of Sidewalk Arm Complete (Less Wiring and Light) (Specify Length of Sidewalk Arm)	3565-60SWX
B	Assembly of Terminal Block Complete (See Pl. G200 for Details)	3561-196
1	Tongue (See Table)	
2	Base Board (See Table)	
3	Clip	3562-95
4	Washer Plate	3562-71
4A	Washer Plate	3562-72
5	Spacer Block	3562-98
5A	Spacer Block	3562-59
6	Through Stud	3562-66D
6A	Through Stud	3562-66H
7	Mach. Bolt, 3/8"-16 x 3" Lg. Sq. Hd. Steel, Hex. Nut and Two Plain Washers	
8	#18-2 Conductor Neoprene Covered Type "S" Cord (Specify Length)	
9	Mach. Bolt. 1/2"-13 x 2" Lg. Hex. Hd. Steel, Hex. Nut and Lock Washer	
10	Wood Screw #10 x 3/4" Lg. Brass	

Table

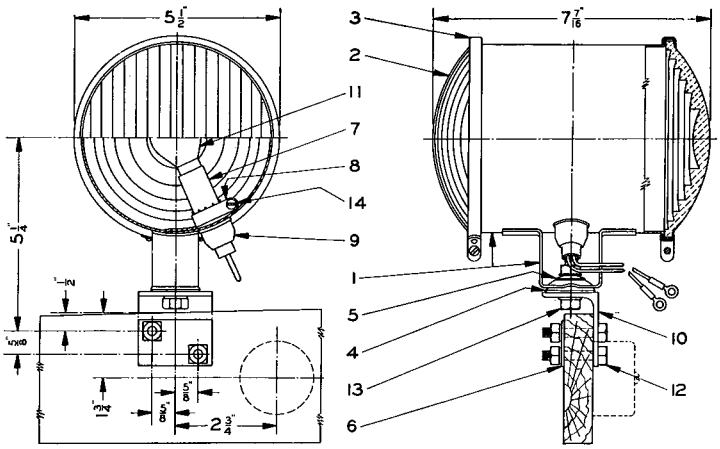
Specified Length of Gate Arm	Ref. No. 1	Ref. No. 2	Suggested Values For Dimension "A"
6'-0"	3562-57-2	3562-56-6	2'-2"
6'-6"	3562-57-2A	3562-56-6	2'-5"
7'-0"	3562-57-3	3562-56-6	2'-8"
7'-6"	3562-57-3A	3562-56-6	2'-11"
8'-0"	3562-57-4	3562-56-6	3'-2"
8'-6"	3562-57-4A	3562-56-6	3'-5"
9'-0"	3562-57-5	3562-56-6	3'-8"
9'-6"	3562-57-5A	3562-56-6	3'-11"
10'-0"	3562-57-6	3562-56-6	4'-2"
10'-6"	3562-57-6A	3562-56-6	4'-5"
11'-0"	3562-57-2	3562-58	4'-8"
11'-6"	3562-57-2A	3562-58	4'-11"
12'-0"	3562-57-3	3562-58	5'-2"
12'-6"	3562-57-3A	3562-58	5'-5"
13'-0"	3562-57-4	3562-58	5'-8"
13'-6"	3562-57-4A	3562-58	5'-11"
14'-0"	3562-57-5	3562-58	6'-2"
14'-6"	3562-57-5A	3562-58	6'-5"
15'-0"	3562-57-6	3562-58	6'-8"
15'-6"	3562-57-6A	3562-58	6'-11"
16'-0"	3562-57-7	3562-58	7'-2"
16'-6"	3562-57-7A	3562-58	7'-5"
17'-0"	3562-57-8	3562-58	7'-8"
17'-6"	3562-57-8A	3562-58	7'-11"
18'-0"	3562-57-9	3562-58	8'-2"

WESTERN RAILROAD SUPPLY COMPANY

Gate Light—Type 1573-50

Two-Way Indication—5⅜" Diameter Lenses

ASSEMBLIES AND REPLACEMENT PARTS



A

Type 1573-50 Gate Light is available with 30° Spreadlite or Optical Type Lenses. Horizontal and Vertical Alignment is adjustable. Aluminum construction limits weight at 2¼ lbs. S.C.B.B. lamp receptacle provided; lamp bulb not furnished unless otherwise specified.

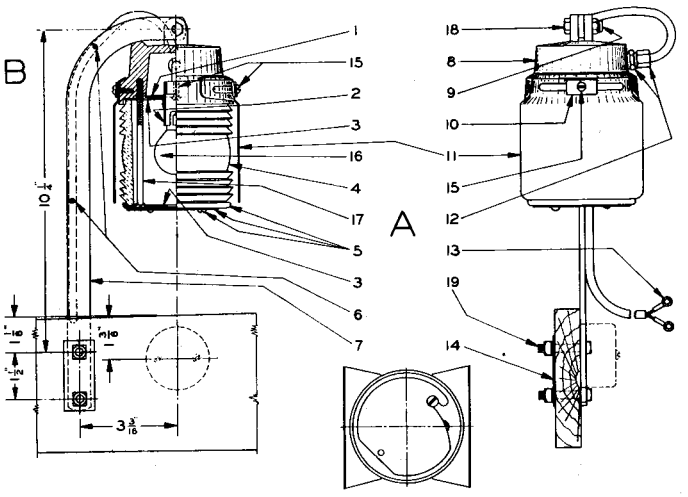
ORDERING REFERENCE

Specify Plate G208, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Assembly of Gate Light Complete, with 30° Spreadlite Lens (Red)	1573-50
A-1	Assembly of Gate Light Complete, with Standard Optical Lens (Red)	1573-50A
1	Gate Light Body Assembly	1573-6
2	30° Spreadlite Lens, 5⅜" Diameter, Red	5330
2A	Standard Optical Lens, 5⅜" Diameter, Red	5331
3	Lens Ring	0500-106S-B
4	Adjusting Washer	1563-15
5	Washer, Steel	1563-16
6	Washer Plate	1563-5
7	Receptacle Assembly	6001-5
8	Clamp	1573-3
9	Insulator Bushing	1563-8
10	Mounting Bracket	1563-2A
11	Lamp Bulb, Incandescent, S.C.B.B., Type S-11, C-2V Filament (Not Furnished Unless Otherwise Specified)	.....
12	Mach. Bolt, ¼" x 1½" Lg. Sq. Hd. Steel and Sq. Steel Nut	.....
13	Cap Screw, 5/16"-18 x 1¼" Lg. Hex. Hd. Steel	.....
74	Mach. Screw, #8-32 x ⅝" Lg. Rd. Hd. Brass and Hex. Nut (N.P.)	.....

Gate Light—Type 1585
Fresnel Lens

ASSEMBLIES AND REPLACEMENT PARTS



BOTTOM VIEW

Type 1585 Gate Light is equipped with a $3\frac{5}{8}$" diameter, red, 360° Fresnel Lens, shielded to provide indication to cross traffic only. A constant vertical axis is provided by the suspension mounting bracket. Wt. $2\frac{1}{2}$ lbs.; S.C.B.B. lamp receptacle; lamp bulb not furnished unless otherwise specified.

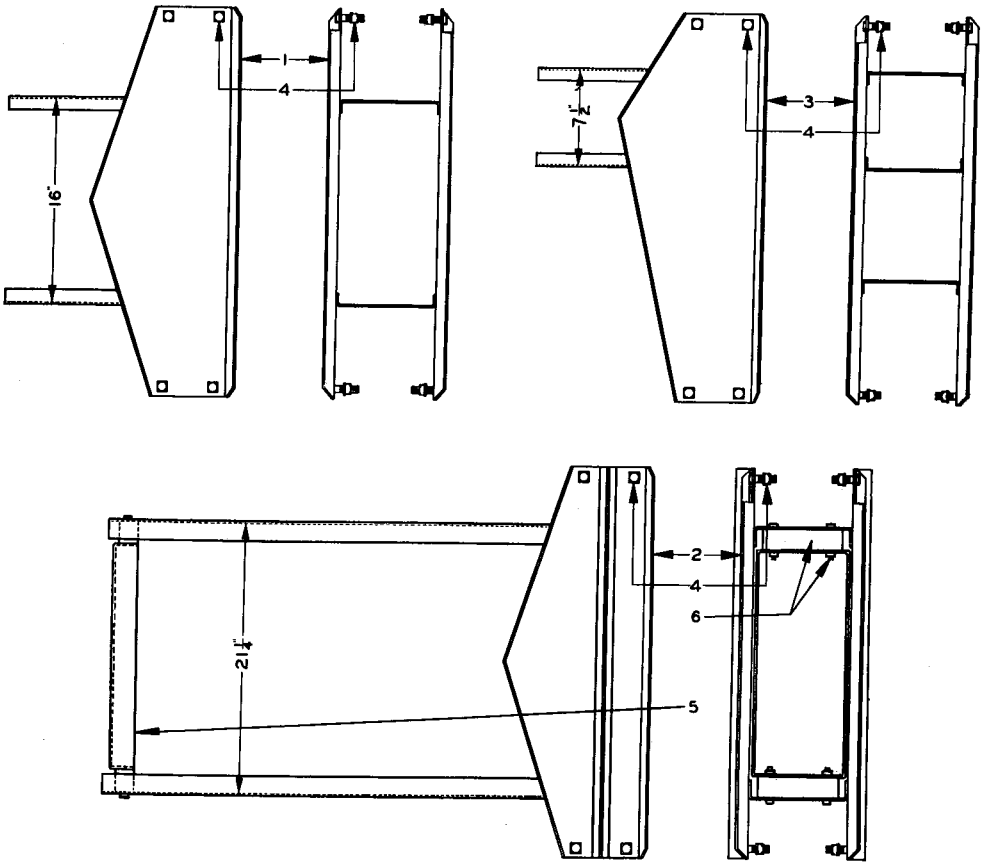
ORDERING REFERENCE

Specify Plate G209, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Assembly of Gate Light Complete with Mounting Bracket and Shields	1585
A-1	Assembly of Gate Light Complete with Mounting Bracket (Less Shields)	1585-40
A-2	Subassembly of Gate Light, with Shields (Less Mounting Bracket)	1585-18AX
A-3	Subassembly of Gate Light (Less Mounting Bracket and Shields)	1585-40AX
B	Subassembly of Mounting Bracket (Includes Items 6, 7, 14 and 20)	1585-15A
1	Lamp Receptacle Plate	1585-6
2	Lamp Receptacle and Cord Assembly	1585-12
3	Gasket	1575-10
4	Fresnel Lens, 360°, Red	1575-11
5	Cover and Retaining Ring Subassembly	1585-11
6	Wire Retainer	1573-9
7	Mounting Bracket	1585-9
8	Housing	1585-3
9	¼"-20 Dualock Nut	90163
10	Shield Clamp	1585-7
11	Shield	1585-2
12	Box Connector	15807
13	Terminal	31887
14	Washer Plate	1575-16
15	Mach. Screw, #10-24 x ½" Lg. Rd. Hd. Brass (N. P.)	
16	Lamp Bulb, Incandescent, S.C.B.B., Type S-11, C-2V Filament (Not Furnished unless otherwise Specified)	
17	Stove Bolt, 3/16" (10-24) x 4" Lg. Fl. Hd. Steel	
18	Pivot Screw	1585-14
19	Mach. Bolt, ¼"-20 x 1½" Lg. Sq. Hd., Sq. Nut and Internal Lockwasher	

Gate Arm Support
For Model 10 Signals
Type 3565-105 Type 3565-105X Type 3565-205

ASSEMBLIES AND REPLACEMENT PARTS



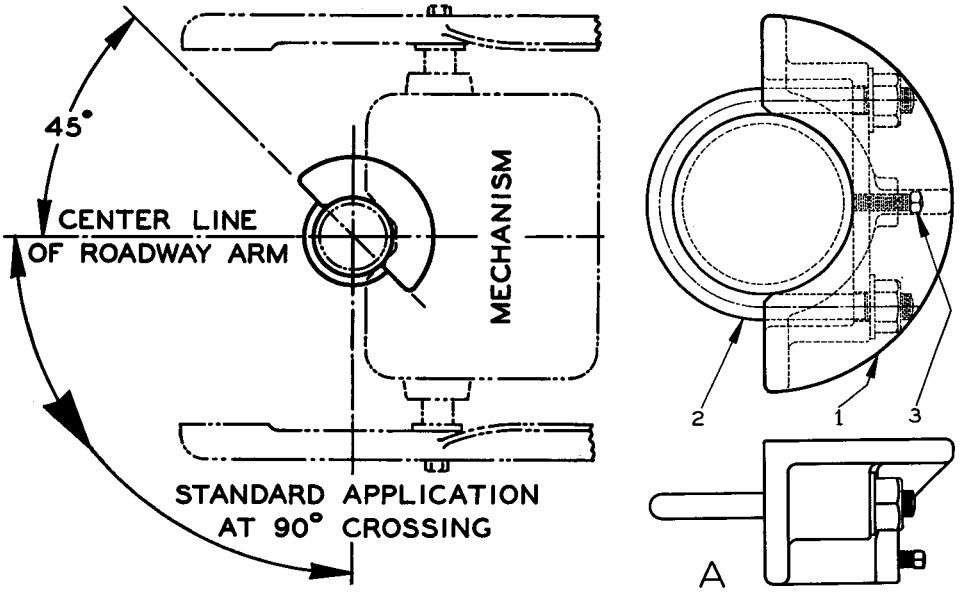
ORDERING REFERENCE

Specify Plate No. G210, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
1	Gate Arm Support (For use with Roadway Arms 14′ to 38′ Lg. Incl.) (Includes Item 4)	3565-105
2	Gate Arm Support (For use with Roadway Arms 39′ to 44′ Lg. Incl.) (Includes Items 4, 5 and 6)	3565-105X
3	Gate Arm Support (For use with Sidewalk Arms 18′ Lg. or Less) (Includes Item 4) (See Plates G180 and G181)	3565-205
4	Mach. Bolt, ½″-13 x 1¾″ Lg., Hex. Hd., Sq. Nut and Lock-washer	
5	Inner Brace	3565-113
6	Shipping Block and Bolts	

Mechanism Support
For Model 10 Signals
Type 3565-380A

ASSEMBLY AND REPLACEMENT PARTS



Because, on occasion, only one man is available to service a gate mechanism or damaged gate arm, we offer our No. 3565-380A Mechanism Support illustrated above.

The device may be secured permanently to the mast, or carried as part of a maintainer's servicing equipment.

Proceedure is as follows—

Attach support to mast and against the under side of the mechanism.

Loosen mechanism clamp bolts.

Remove $\frac{3}{8}$" cap screws holding the conduit flange to the junction box base.

When traffic permits, open "Motor Up" and "Slot" circuits in type 3564 Mechanism, or "Slot" circuit in type 3566 Mechanism.

Swing mechanism and gate assembly away from tracks until arm is parallel to curb or highway edge.

After repair is completed, reverse procedure, being careful not to restore "Slot" and "Motor Up" wires until mechanism is restored to its normal position.

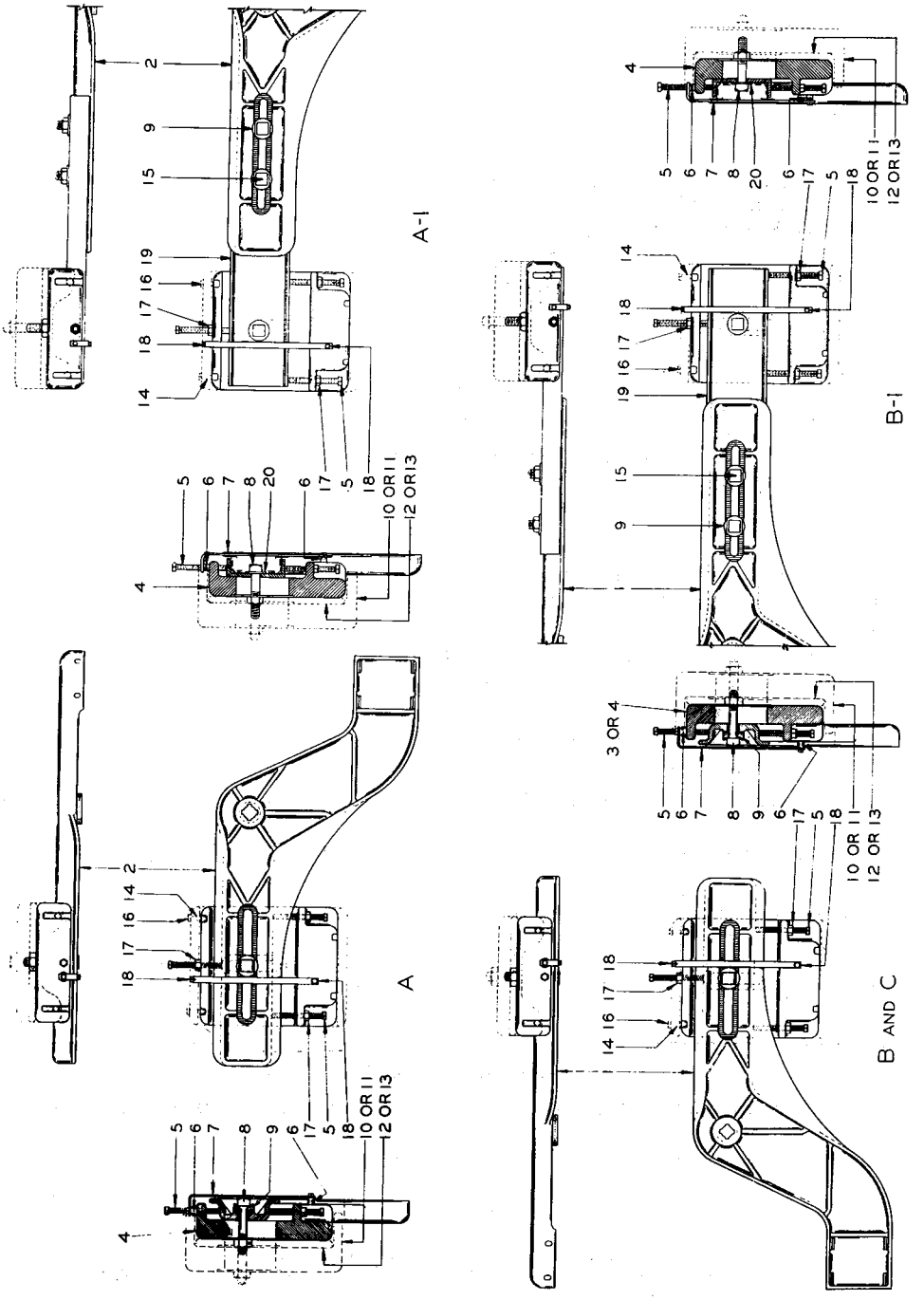
ORDERING REFERENCE

Specify Plate Number G211, Reference Number, Description and Piece Number.

Ref. No.	Description	Piece No.
A	Mechanism Support Complete for 5" I. D. Pipe Mounting	3565-380A
1	Mechanism Support only	3565-380
2	"U" Bolt for 5" I. D. Pipe Mounting	0700-276
3	Set Screw, ½"-13 x 1¾" Lg. Sq. Hd. Cup Pt. Steel	

Gate and Counterweight Arm For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS



WESTERN RAILROAD SUPPLY COMPANY

Gate and Counterweight Arm For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

ORDERING REFERENCE

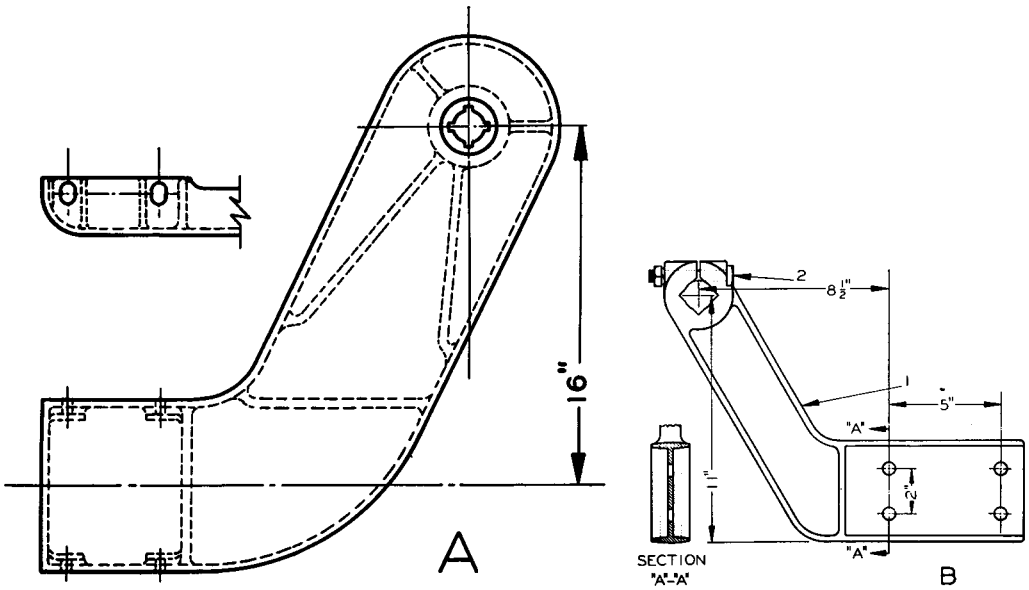
Specify Plate G212, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Gate and Counterweight Arm Assembly (For Roadway Arms 25′ to 30′ Lg. Inclusive) (Specify Length of Arm)	3565-102L
A-1	Gate and Counterweight Arm Assembly (For Roadway Arms 31′ to 44′ Lg. Inclusive) (Specify Length of Arm)	3565-102L
B	Gate and Counterweight Arm Assembly (For Roadway Arms 14′ to 30′ Lg. Inclusive) (Specify Length of Arm)	3565-103R
B-1	Gate and Counterweight Arm Assembly (For Roadway Arms 31′ to 44′ Lg. Inclusive) (Specify Length of Arm)	3565-103R
C	Gate and Counterweight Arm Assembly (For Sidewalk Arms 18′ Lg. or Less) (Identical to Reference B, except Less Items 4, 10, 11, 12 and 13, but with Item 3)	3565-103RX
1	Right Hand Gate and Counterweight Arm Only	3565-103
2	Left Hand Gate and Counterweight Arm Only	3565-102
3	Counterweight Complete—85 Lbs.	3562-236A
4	Counterweight Complete—160 Lbs.	3562-226A
4A	Counterweight only 160 Lbs.	3562-226
5	Set Screw, 5/8″—11 x 6″ Lg., Sq. Hd. Dog Point Steel	3562-211
6	Sleeve	3562-232
7	Retaining Strap	3562-233
8	Counterweight Mounting Bolt, 6″ Lg. with Hex. Nut and Plain Washer	3562-182-6
8A	Counterweight Mounting Bolt, 7″ Lg., with Hex. Nut and Plain Washer	3562-182-7
8B	Counterweight Mounting Bolt, 8″ Lg. with Hex. Nut and Plain Washer	3562-182-8
8C	Counterweight Mounting Bolt, 9″ Lg. with Hex. Nut and Plain Washer	3562-182-9
8D	Counterweight Mounting Bolt, 10″ Lg. with Hex. Nut and Plain Washer	3565-182-10
8E	Counterweight Mounting Bolt, 11″ Lg. with Hex. Nut and Plain Washer	3565-182-11
8F	Counterweight Mounting Bolt, 12″ Lg. with Hex. Nut and Plain Washer	3565-182-12
9	Clamp Washer	3565-104
10	Counterweight 100 Lbs.	3562-229
11	Counterweight 200 Lbs.	3562-230
12	Counterweight 25 Lbs.	3562-228
13	Counterweight 50 Lbs.	3562-227
14	Retaining Pin	3562-242
15	Mach. Bolt, 1″—8 x 3½″ Lg. Sq. Hd. Steel and 2 Plain Washers	
16	Hex. Nut, 3/8″—16, Steel.	
17	Hex. Nut, 5/8″—11, Steel.	
18	Cap Screw, 3/8″—16 x 1¾″ Hex. Hd. Steel	
19	Counterweight Extension Arm (For Use with Ref. A1 and B1)	3565-174

WESTERN RAILROAD SUPPLY COMPANY

Gate Support Arm and Sidewalk Arm Bracket For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS



ORDERING REFERENCE

Specify Plate G214, Reference Number, Description and Piece Number

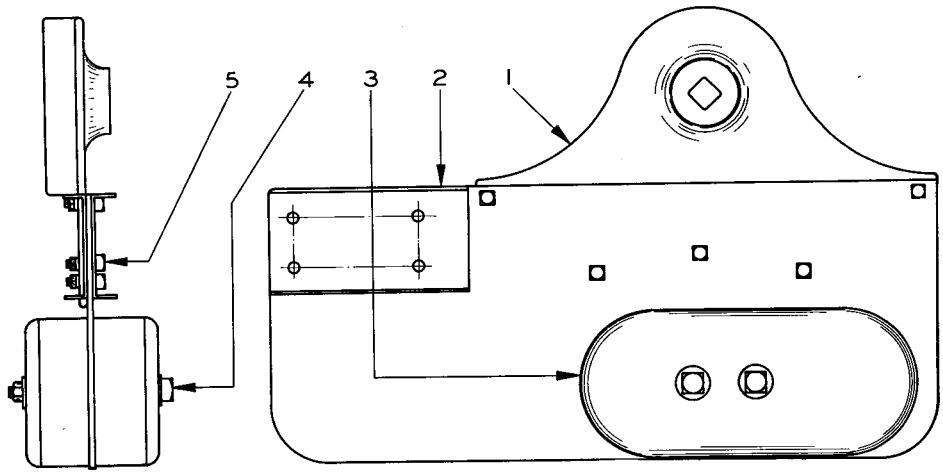
Ref. No.	Description	Piece No.
A	Gate Support Arm Complete (For use with Roadway Arm 14′ to 24′ Lg. Inclusive)	3565-101
B	Sidewalk Arm Bracket Complete (For use with Sidewalk Arm 18′ Lg. or Less)	3565-111
1	Sidewalk Arm Bracket (Casting only)	3565-111A
2	Mach. Bolt, ½″—13 x 3½″ Lg. Sq. Hd., Steel Hex. Nut and Lock Washer	

WESTERN RAILROAD SUPPLY COMPANY

Sidewalk and Counterweight Support Arm For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G185



A

ORDERING REFERENCE

Specify Plate G216, Reference Number, Description and Piece Number

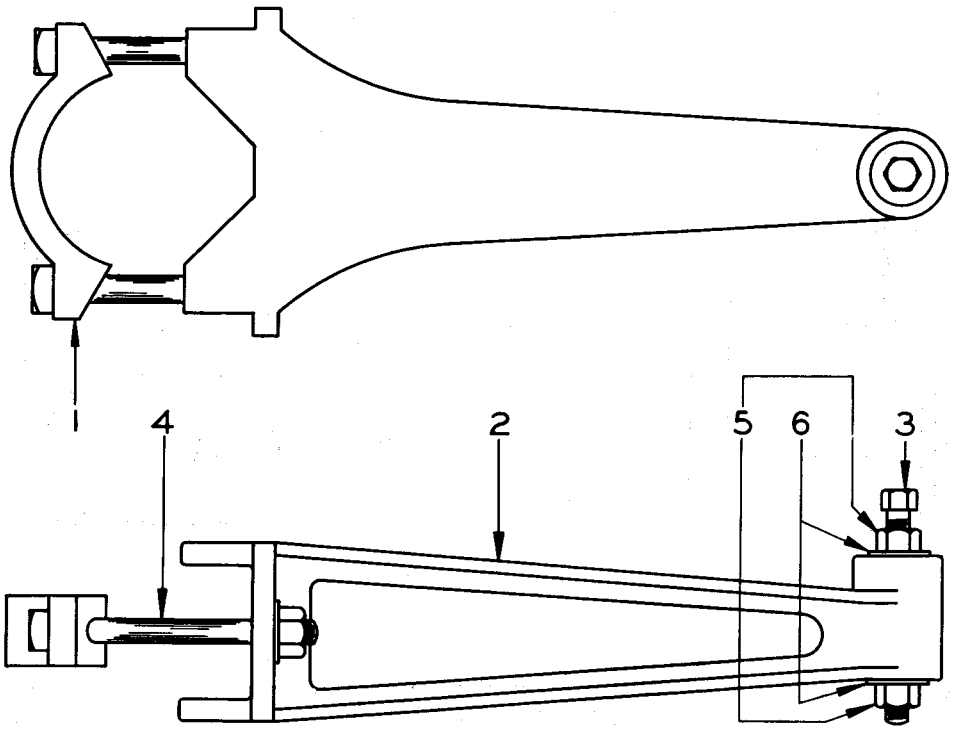
Ref. No.	Description	Piece No.
A	Sidewalk and Counterweight Support Arm Assembly Complete (See Plate G185)	3561–99
1	A.A.R. Spectacle Hub	T–21050–A
2	Mounting Plate	3561–115
3	Counterweight	3562–107–2½
4	Mach. Bolt, ½"–13 x 6½" Lg. Sq. Hd., Hex. Nut and 2 Plain Washers	
5	Mach. Bolt, ⅜"–16 x 1¼" Lg. Sq. Hd. Hex. Nut and Lock Washer	

WESTERN RAILROAD SUPPLY COMPANY

Stop Bracket
For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G185



A

ORDERING REFERENCE

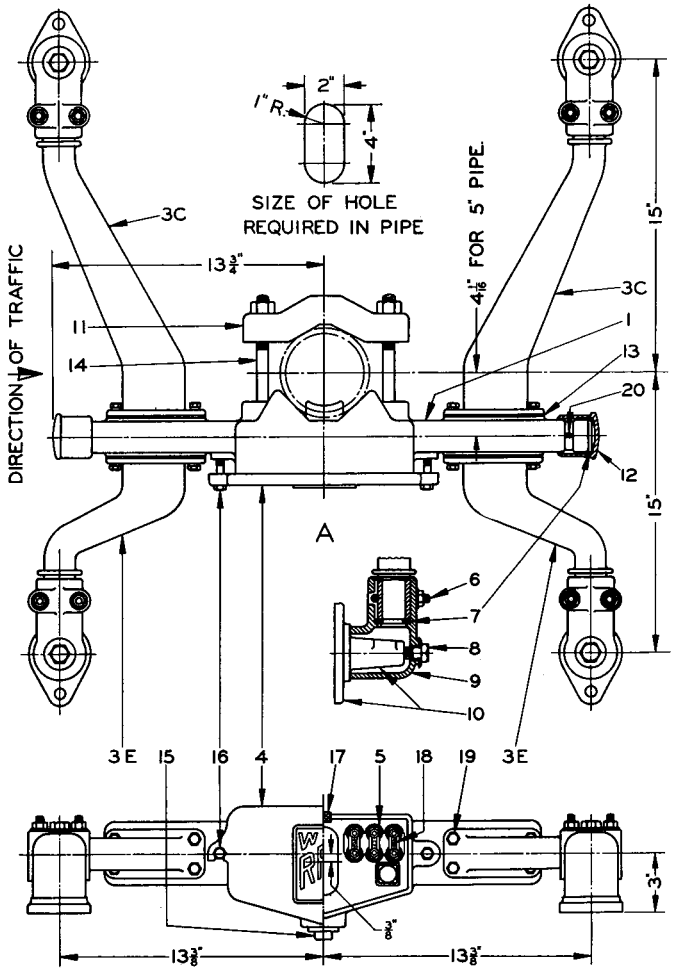
Specify Plate No. G218, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Stop Bracket Assembly Complete (For 5″ I.D. Pipe)	3561-114
1	Clamp (For 5″ I.D. Pipe)	3561-92
2	Stop Bracket Arm	3561-15
3	Set Screw, 5/8″-11 x 6″ Lg. Hex. Hd., Steel Dog Pt	3562-211
4	Mach. Bolt, 3/4″-10 x 7 1/2″ Lg. Sq. Hd., Steel and Plain Washer	
5	Hex. Nut, 5/8″-11 Steel	
6	Plain Washer 5/8″	

WESTERN RAILROAD SUPPLY COMPANY

Junction Box Cross Arm For Two-Way Indication Type 950-54

ASSEMBLY AND REPLACEMENT PARTS



ORDERING REFERENCE

Specify Plate G220, Reference Number, Description and Piece Number

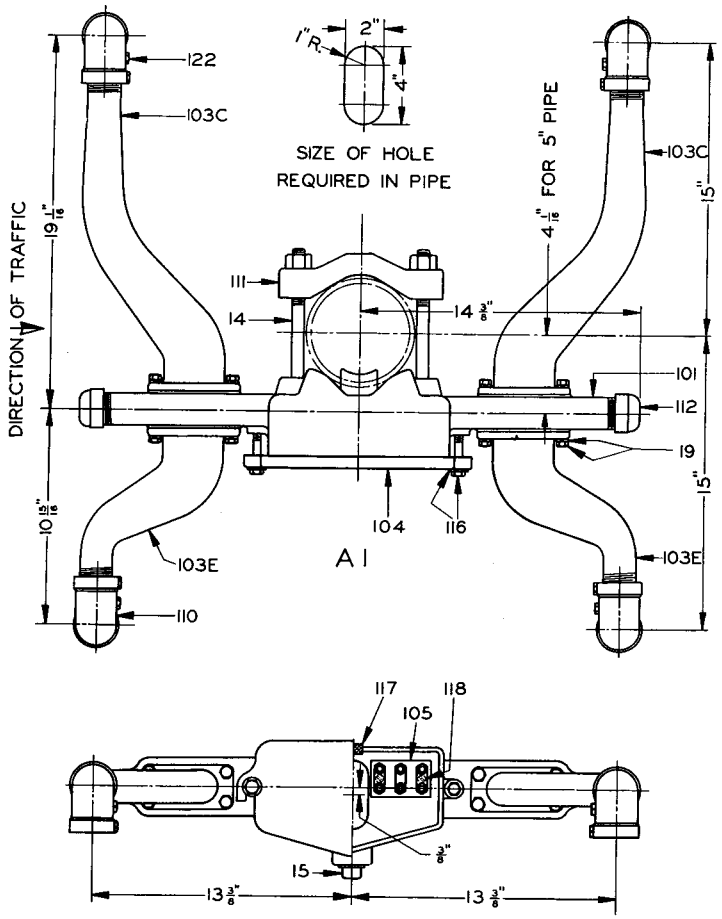
Ref. No.	Description	Piece No.
A	Junction Box Cross Arm Assembly for Mounting Four 950-201, or Four HC-81 Light Units (For 5" I.D. Pipe Mounting)	950-54

For detail parts, see pages 42 and 43.

WESTERN RAILROAD SUPPLY COMPANY

Junction Box Cross Arm For Two-Way Indication Type 950-54G

ASSEMBLY AND REPLACEMENT PARTS



ORDERING REFERENCE

Specify Plate G220, Reference Number, Description and Piece Number

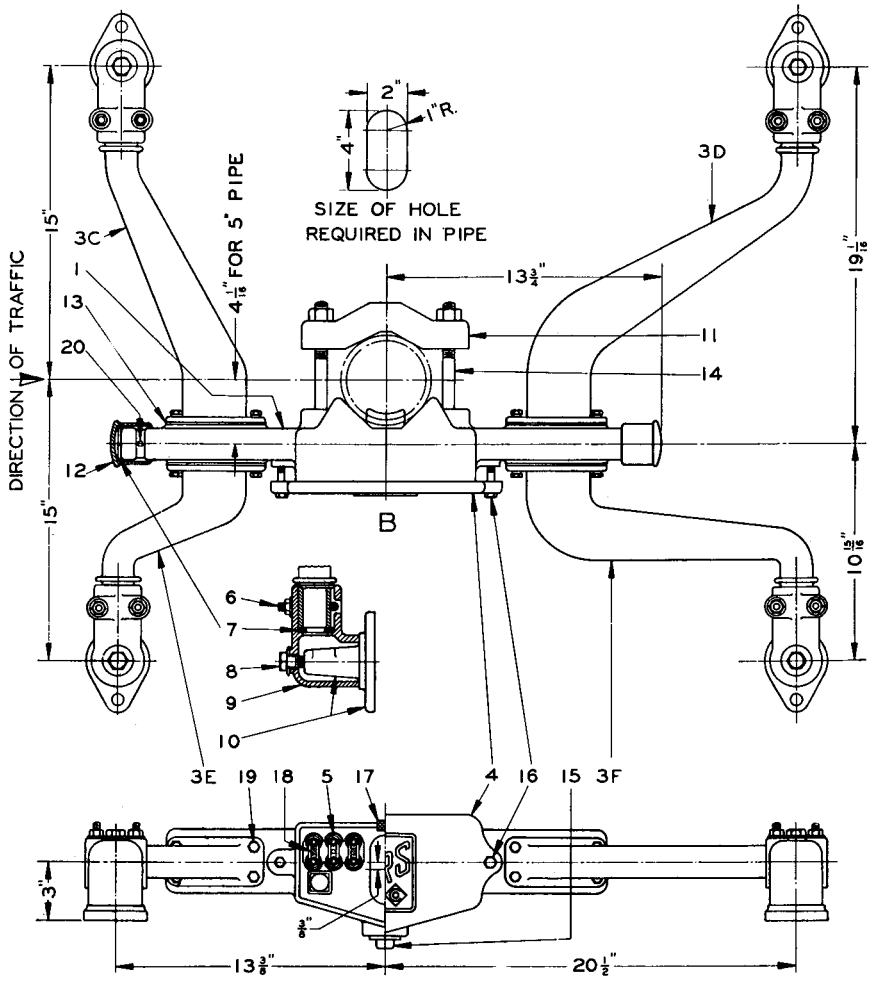
Ref. No.	Description	Piece No.
A-1	Junction Box Cross Arm Assembly for Mounting Four Type XC Light Units (For 5" I.D. Pipe Mounting).....	950-54G

For detail parts, see pages 42 and 43.

WESTERN RAILROAD SUPPLY COMPANY

Junction Box Cross Arm For Two-Way Indication Type 950-74R

ASSEMBLY AND REPLACEMENT PARTS



ORDERING REFERENCE

Specify Plate G220, Reference Number, Description and Piece Number

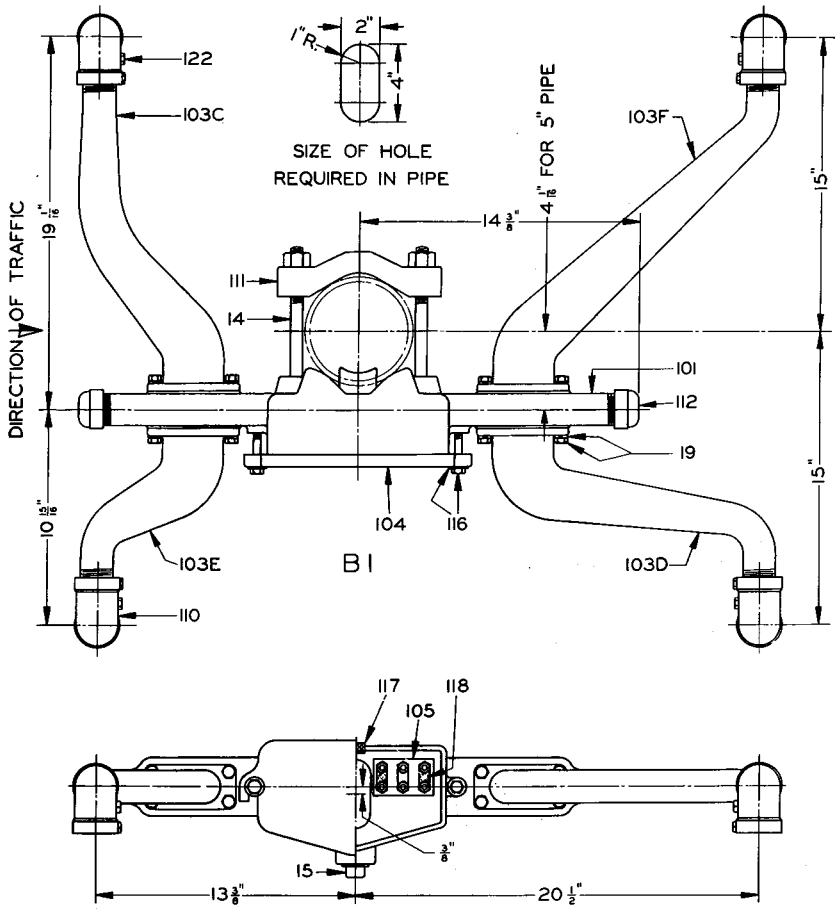
Ref. No.	Description	Piece No.
B	Junction Box Cross Arm Assembly for Mounting Four 950-201, or Four HC-81 Light Units (For 5" I.D. Pipe Mounting)	950-74R

For detail parts, see pages 42 and 43.

WESTERN RAILROAD SUPPLY COMPANY

Junction Box Cross Arm For Two-Way Indication Type 950-74RG

ASSEMBLY AND REPLACEMENT PARTS



ORDERING REFERENCE

Specify Plate G220, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
B-1	Junction Box Cross Arm Assembly for Mounting Four Type XC Light Units (For 5" I.D. Pipe Mounting).....	950-74RG

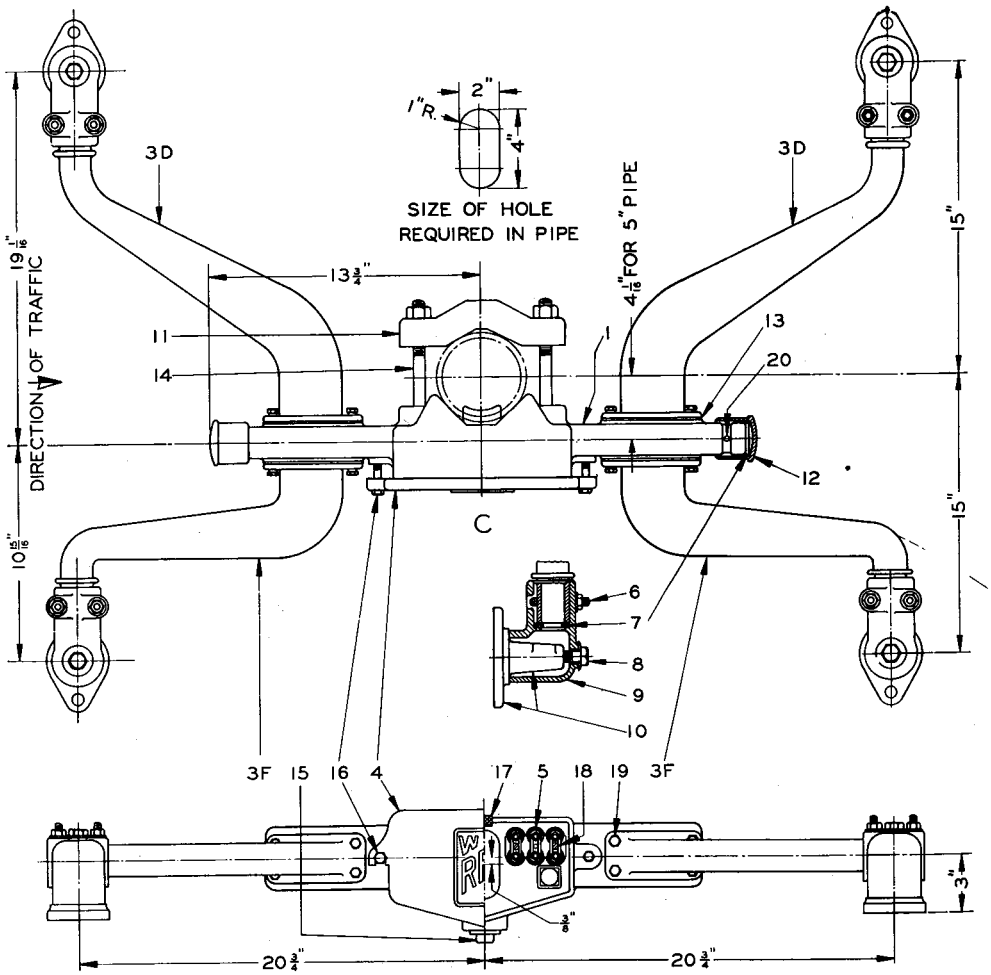
For detail parts, see pages 42 and 43.

WESTERN RAILROAD SUPPLY COMPANY

Junction Box Cross Arm For Two-Way Indication

Type 950-84 Type 950-84G

ASSEMBLIES AND REPLACEMENT PARTS



ORDERING REFERENCE

Specify Plate G220, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
C	Junction Box Cross Arm Assembly for Mounting Four 950-201, or Four HC-81 Light Units (For 5" I.D. Pipe Mounting)	950-84
C-1	Junction Box Cross Arm Assembly with Adaptor (Ref. J, page 42), for Mounting Four Type XC Light Units (For 5" I.D. Pipe Mounting)	950-84G

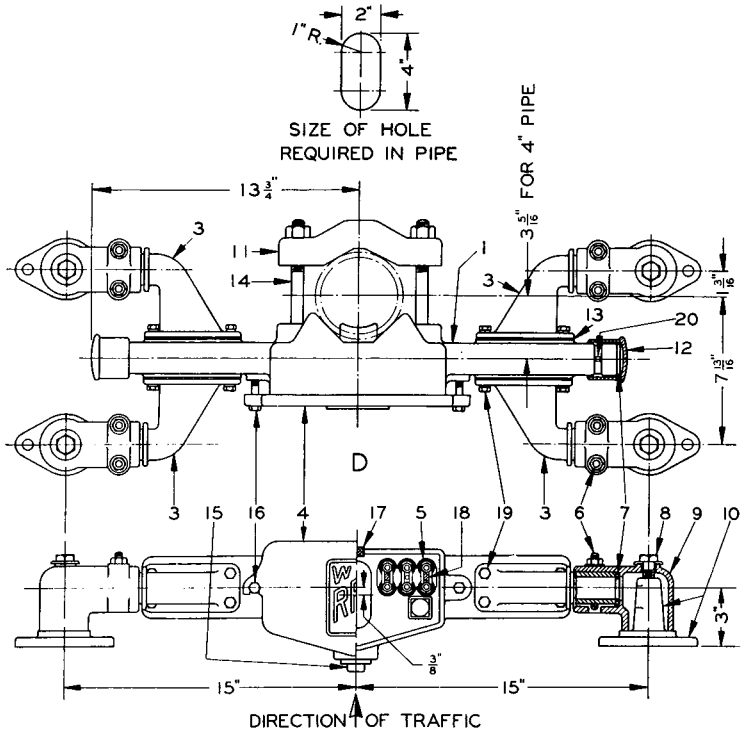
For detail parts, see pages 42 and 43.

WESTERN RAILROAD SUPPLY COMPANY

Junction Box Cross Arm For Two-Way Indication

Type 950-5 Type 950-5G

ASSEMBLIES AND REPLACEMENT PARTS



ORDERING REFERENCE

Specify Plate G220, Reference Number, Description and Piece Number

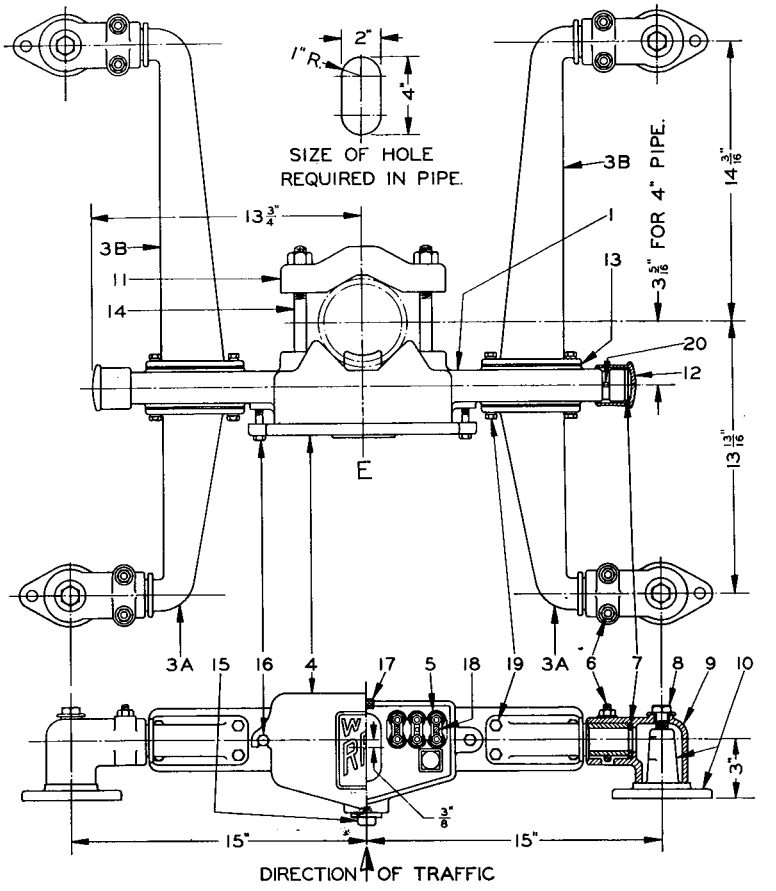
Ref. No.	Description	Piece No.
D	Junction Box Cross Arm Assembly for Mounting Four 950-201, or Four HC-81 Light Units (Specify Pipe Size).....	950-5
D-1	Junction Box Cross Arm Assembly, with Adaptor (Ref. J, Page 42), for Mounting Four Type XC Light Units (Specify Pipe Size).....	950-5G

For detail parts, see pages 42 and 43.

Junction Box Cross Arm For Two-Way Indication

Type 950-5XX Type 950-5XXG

ASSEMBLIES AND REPLACEMENT PARTS



ORDERING REFERENCE

Specify Plate G220, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
E	Junction Box Cross Arm Assembly for Mounting Four 950-201, or Four HC-81 Light Units (For 4" I.D. Pipe Mounting)....	950-5XX
E-1	Junction Box Cross Arm Assembly, with Adaptor (Ref. J, Page 42), for Mounting Four Type XC Light Units (For 4" I. D. Pipe Mounting).....	950-5XXG

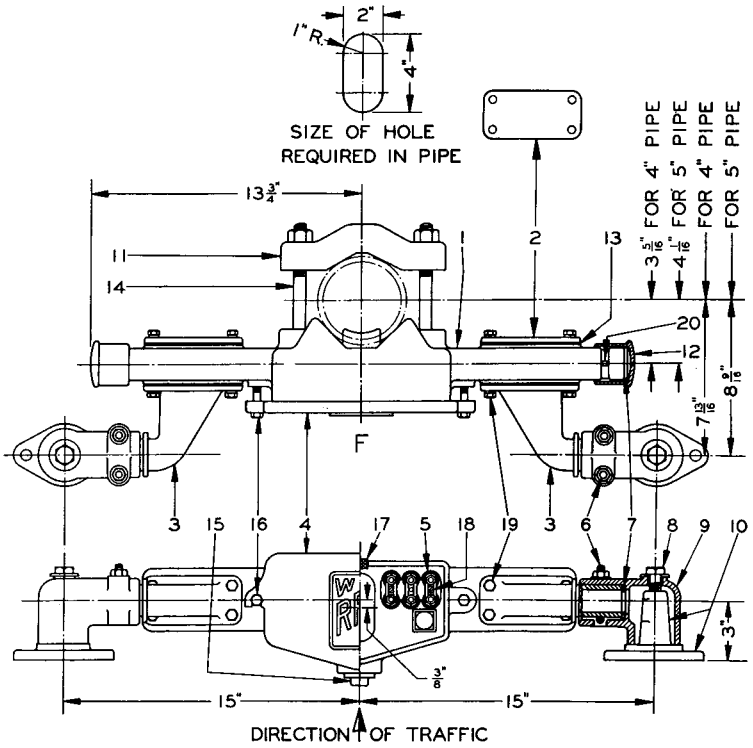
For detail parts, see pages 42 and 43.

WESTERN RAILROAD SUPPLY COMPANY

Junction Box Cross Arm For One-Way Indication

Type 950-83 Type 950-83G

ASSEMBLIES AND REPLACEMENT PARTS



ORDERING REFERENCE

Specify Plate G220, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
F	Junction Box Cross Arm Assembly for Mounting Two 950-201, or Two HC-81 Light Units. (Specify Pipe Size)	950-83
F-1	Junction Box Cross Arm Assembly, with Adaptor (Ref. J, Page 42), for Mounting Two Type XC Light Units. (Specify Pipe Size)	950-83G

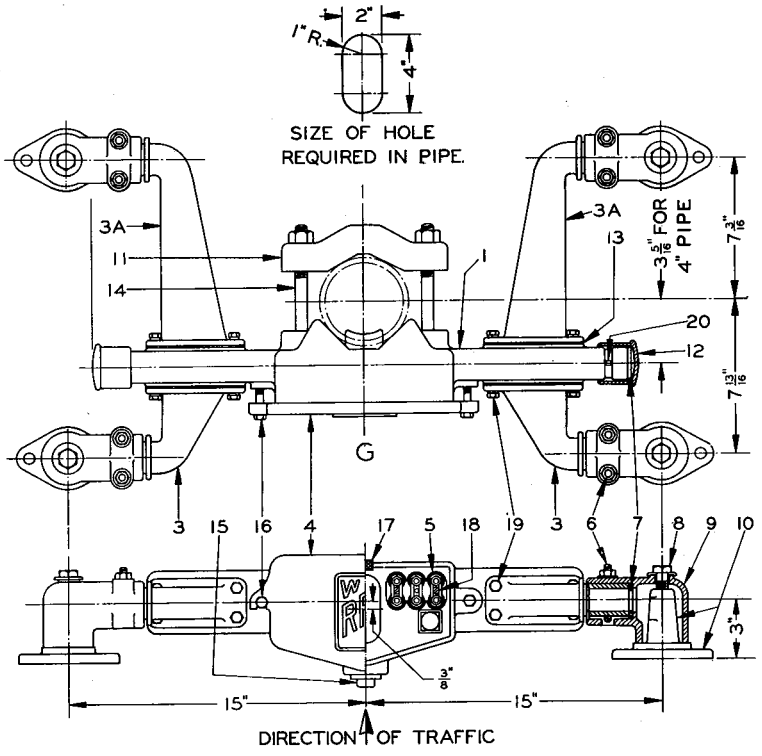
For detail parts, see pages 42 and 43.

WESTERN RAILROAD SUPPLY COMPANY

Junction Box Cross Arm For Two-Way Indication

Type 950-88 Type 950-88G

ASSEMBLIES AND REPLACEMENT PARTS



ORDERING REFERENCE

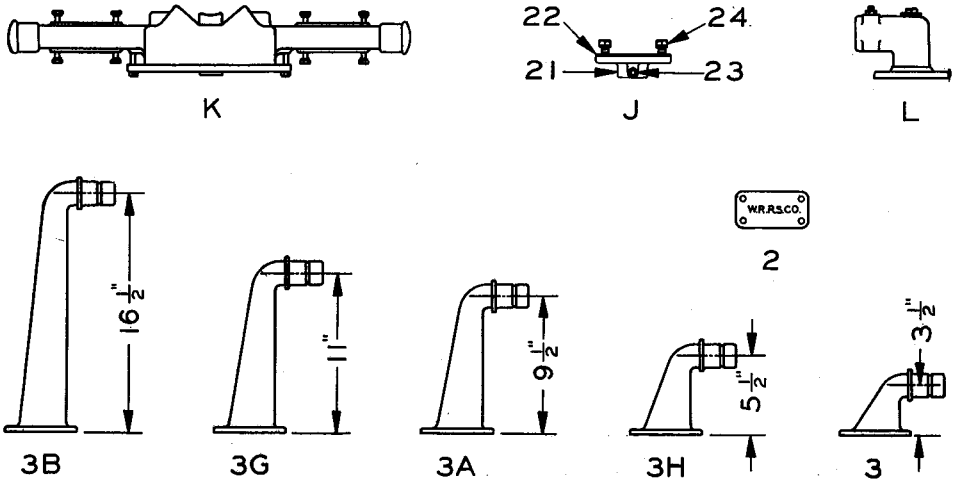
Specify Plate G220, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
G	Junction Box Cross Arm Assembly for Mounting Four 950-201, or Four HC-81 Light Units (Specify Pipe Size)	950-88
G-1	Junction Box Cross Arm Assembly, with Adaptor (Ref. J, Page 42), for Mounting Four Type XC Light Units (Specify Pipe Size)	950-88G

For detail parts, see pages 42 and 43.

Junction Box Cross Arms

REPLACEMENT PARTS



ORDERING REFERENCE

Specify Plate G220, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
J	Subassembly of Adaptor for Mounting Type XC Light Units on Type 950 Junction Box Cross Arms (Includes Items 21, 22, 23 and 24)	950-72B
K	Subassembly of Junction Box Cross Arm (Includes Items 1, 4, 5, 7, 12, 15, 16, 18, 19 and 20)	950-62
L	Subassembly of Supporting Bracket (Includes Items 6, 7, 8, 9 and 10)	950-63
1	Junction Box Cross Arm (Casting only)	950-22
2	Cover Plate	950-39
3	Bracket, 3½"	950-57
3A	Bracket, 9½"	950-47
3B	Bracket, 16½"	950-46
3C	Bracket, 16¼" x 4⅞"	950-67
3D	Bracket, 16¼" x 12"	950-77
3E	Bracket, 8¼" x 4⅞"	950-66
3F	Bracket, 8¼" x 12"	950-76
3G	Bracket, 11"	950-37
3H	Bracket, 5½"	950-36

Junction Box Cross Arms

REPLACEMENT PARTS
(Continued)

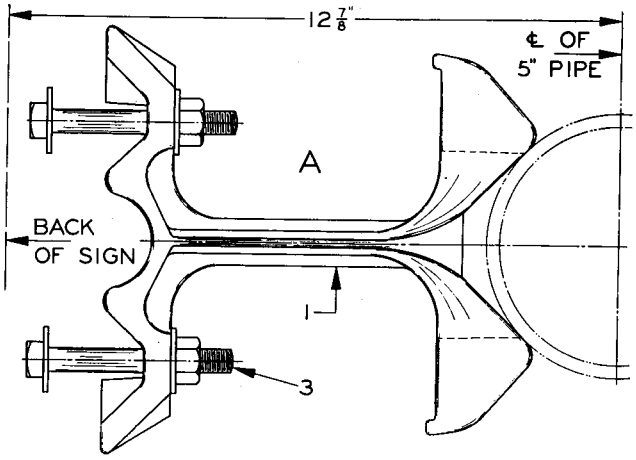
ORDERING REFERENCE
Specify Plate G220, Reference Number, Description and Piece Number

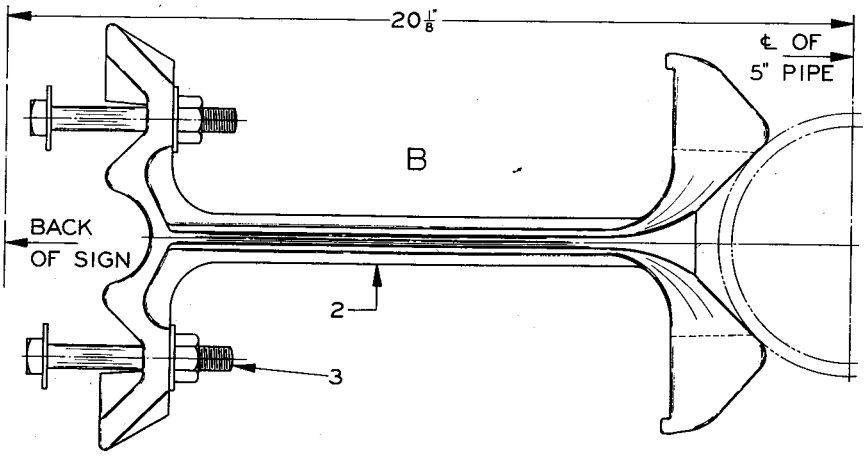
Ref. No.	Description	Piece No.
4	Cover, Complete with Packing	950–21
5	Terminal Block, Complete	2506–13
6	"U" Bolt, 3/8"-16, Complete with Nuts	950–31
7	Gasket, Sponge Rubber	950–28
8	Bolt Complete with Washer	950–33
9	Supporting Bracket Only (Less Items 6, 7, 8 and 10)	950–30
10	Light Unit Support	950–32
11	Adaptor Clamp	950–34
12	Cap	950–29
13	Gasket, Cork	950–27
14	Mach. Bolt, 5/8"-11 x 7½" Lg., Sq. Hd. Steel, and Hex. Nut (For 5" Pipe Mounting)	
14A	Mach. Bolt, 5/8"-11 x 6" Lg., Sq. Hd. Steel, and Hex. Nut (For 4" Pipe Mounting)	
15	Pipe Plug, 1¼" St'd., Iron	
16	Cap Screw, 3/8"-16 x 2" Lg. Hex. Hd. Steel	
17	Torchwick Packing 3/8" Diameter x 27" Lg	
18	Mach. Screw, No. 10-32 x 5/8" Lg. Fil. Hd. Steel	
19	Cap Screw, 3/8"-16 x 7/8" Lg., Hex. Hd. Steel and Lock Washer	
20	Set Screw ¼"-20 x ½" Lg., Sq. Hd. Cup. Pt. Steel	
21	Adaptor Only	950–72
22	Gasket	950–17
23	Set Screw, 3/8"-16 x 1¼" Lg. Sq. Hd. Cup. Pt. Steel and Hex. Nut	
24	Cap Screw, ½"-13 x 1¼" Lg., Hex. Hd. Steel and Lockwasher	
101	Junction Box Cross Arm (Casting only)	55215–3
103C	Bracket, 16¼" x 4⅞"	55884–6
103D	Bracket, 8¼" x 12"	55884–4
103E	Bracket, 8¼" x 4⅞"	55884–7
103F	Bracket, 16¼" x 12"	55884–5
104	Cover Complete with Packing	49134–15
105	Terminal Block Complete	46048–23
110	Elbow	53135–3
111	Adaptor Clamp	4137–6
112	Cap	32367–2
116	Cap Screw, 3/8"-16 x 2¼" Lg., Hex. Hd. and 7/16" I.D. x 1" O.D. Washer	
117	Torchwick Packing, 3/8" Diameter x 27" Lg	
118	Mach. Screw, No. 14-24 x 5/8" Lg. Fil. Hd. Steel	
122	Cap Screw 3/8"-16 x 2" Lg. Hex. Hd. Steel	

WESTERN RAILROAD SUPPLY COMPANY

Extension Brackets For Crossing Signs Type 3366-40 Type 3366-140

ASSEMBLIES AND REPLACEMENT PARTS





ORDERING REFERENCE

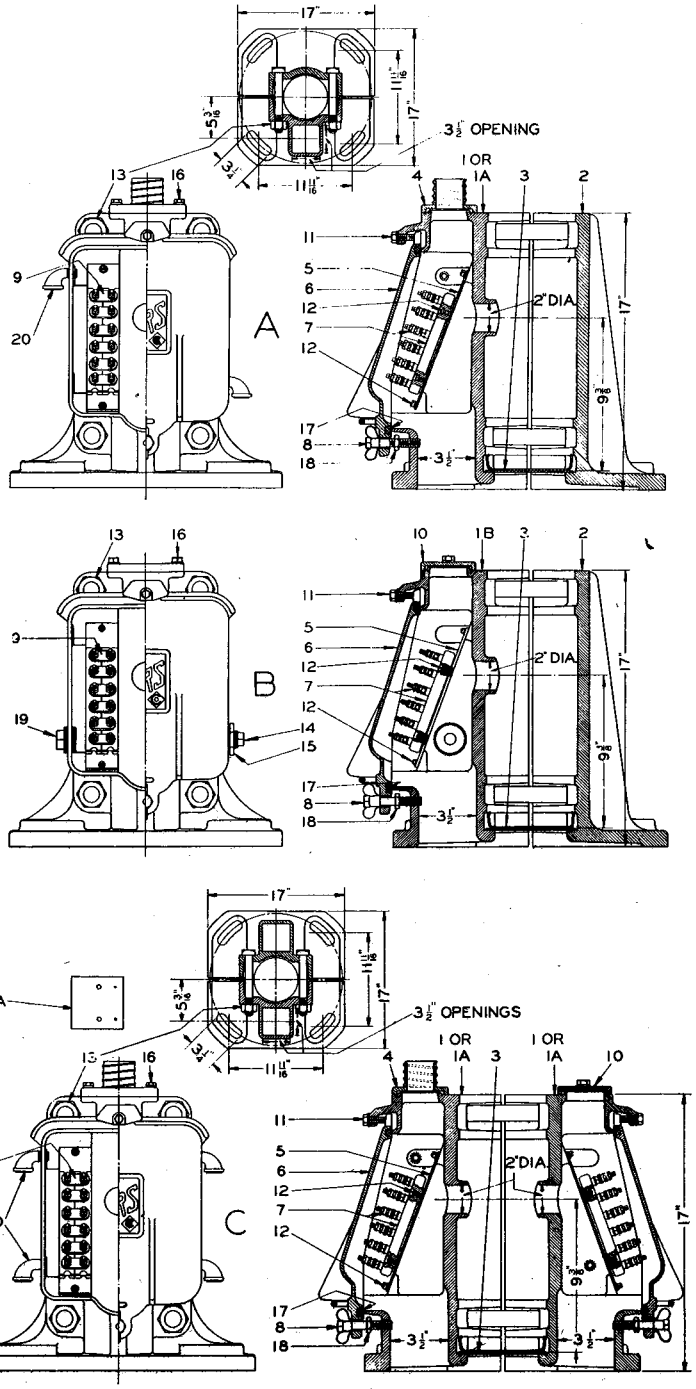
Specify Plate No. G222, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Assembly of Type 3366-40 Extension Bracket Complete with Bolts, Nuts and Washers	3366-40
B	Assembly of Type 3366-140 Extension Bracket Complete with Bolts, Nuts and Washers	3366-140
1	Extension Bracket, casting only	3366-41
2	Extension Bracket, casting only	3366-141
3	Mach. Bolt, ½"-13 x 4" Lg., Sq. Hd., Steel, Hex. Nut and 2 Plain Steel Washers	

MEMORANDA

Junction Box Clamp Type Base
Type 2149

ASSEMBLIES AND REPLACEMENT PARTS



WESTERN RAILROAD SUPPLY COMPANY

Junction Box Clamp Type Base Type 2149

ASSEMBLIES AND REPLACEMENT PARTS

ORDERING REFERENCE

Specify Plate No. G224, Reference Number, Description and Piece Number

Ref. No.	Number of Binding Posts	Ventilators	Conduit Flange Ref. 4	Piece No.
A	24	Without	With	2149–11
A-1	24	With	With	2149–11C
A-2	32	Without	With	2149–11X
A-3	28	Without	With	2149–11Y
A-4	Without	Without	Without	2149
B	24	Without	Without	2149–11B
C	48	Without	With	2149–12
C-1	48	With	Without	2149–12C
C-2	48	With	With	2149–12E

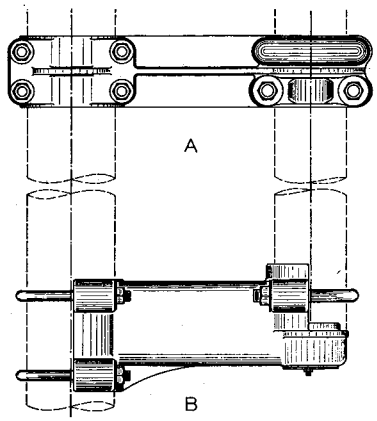
Ref. No.	Description	Piece No.
1	Junction Box Half (Without Terminals, Cover, Ventilators and Fittings) (For Ref's. A, A–2, A–3 and C)	2149–15
1A	Junction Box Half (Without Terminals, Cover, Ventilators and Fittings) (For Ref's. A–1, C–1 and C–2)	2149–15C
1B	Junction Box Half (Without Terminals, Cover, Ventilators and Fittings) (For Ref. B)	2149–15B
2	Split Base Half	2149–13
3	Pipe Shield	2149–24
4	Conduit Flange	2149–17
5	Terminal Mounting Plate	2149–25
5A	Terminal Mounting Plate (For Ref. 7B only)	2149–32
6	Cover with Packing Ref. 17	2149–16
7	Terminal Strip (6 Way)	2508–16
7A	Terminal Strip (7 Way) (For Ref. A–3 only)	2508–17
7B	Terminal Strip (4 Way) (For Ref. A–2 only)	2508–14
8	Thumb Screw	2149–18A
9	Connector	7323–2
10	Blank Cover	2149–22
11	Cap Screw, ⅜″—16 x ⅞″ Lg. Hex. Hd. Steel and Pl. Washer	
12	Mach. Screw, 14—24 x ⅝″ Lg. Fil. Hd. Steel	
13	Mach. Bolt, 1″—8 x 7½″ Lg. Sq. Hd. Steel and Hex. Nut	
14	Pipe Plug, ¾″ Std. Iron	
15	Pipe Reducer Bushing, 1¼″ x ¾″ Std. Iron	
16	Cap Screw, ⅜″—16 x 1⅛″ Lg. Hex. Hd. Steel and Lock Washer	
17	Packing, Flax or Jute, ⅜″ Sq. x 3′—2½″ Lg.	
18	Hex. Jam Nut, ½″—13 Std., Steel	
19	Pipe Plug, 1¼″ Std. Iron	
20	Ventilator	1143–16

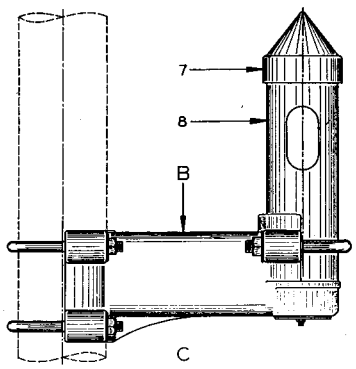
WESTERN RAILROAD SUPPLY COMPANY

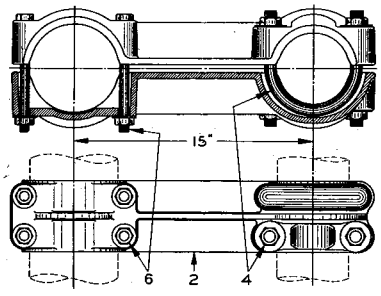
Upper and Lower Supporting Brackets For Offset Mast Type Model 10 Signals

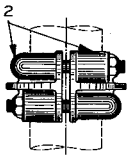
Type 3565-65 Type 3565-67 Type 3565-367

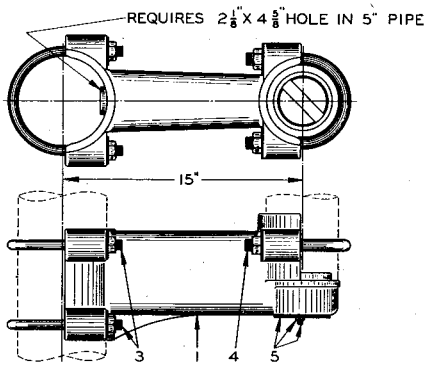
ASSEMBLIES AND REPLACEMENT PARTS











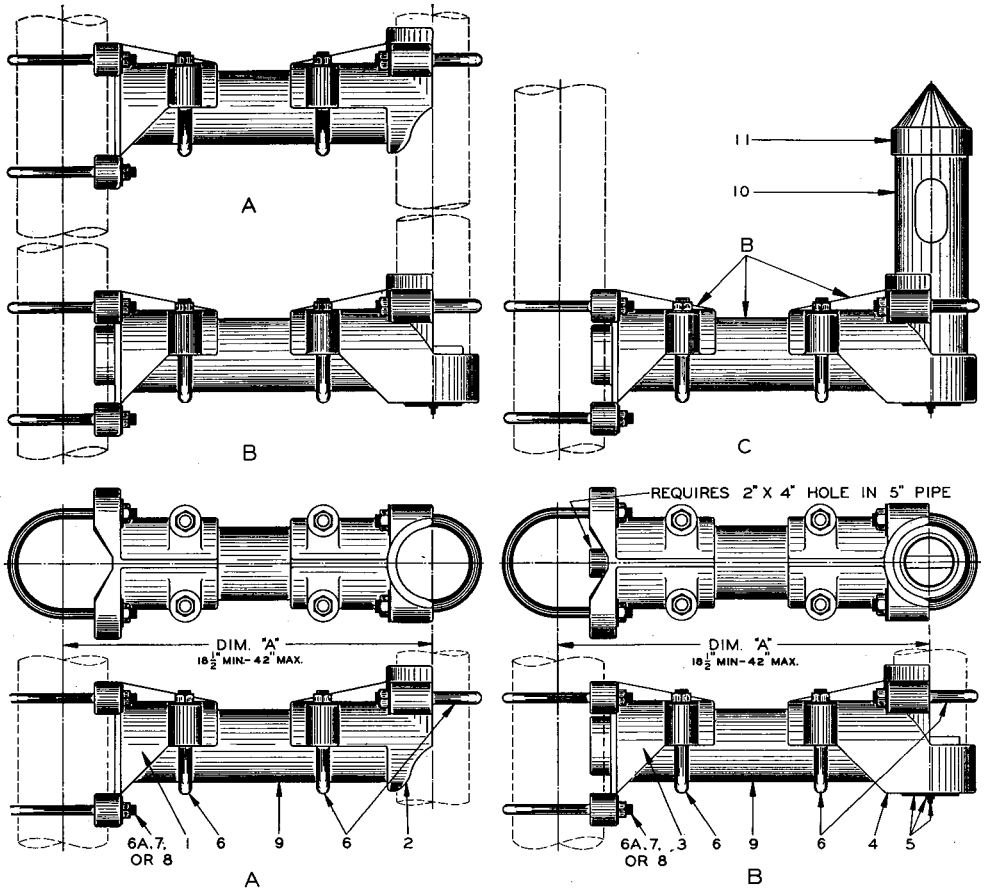
ORDERING REFERENCE

Specify Plate G226, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Upper Supporting Bracket Assembly	3565–65
B	Lower Supporting Bracket Assembly	3565–67
C	Supporting Bracket and Dowel Mast Assembly	3565–367
1	Upper Bracket Casting Only	3565–69
2	Upper Bracket Casting Only	3565–68
3	"U" Bolt for 5" I.D. Pipe	1264–5
4	"U" Bolt for 4" I.D. Pipe	3565–163
5	Wire Opening Cover and Clamp Subassembly	3565–162A
6	Mach. Bolt, 5/8"—11 x 7" Lg. Sq. Hd. Steel, Hex. Steel Nut and Plain Washer	
7	Pinnacle	110–6
8	Dowel, 4" I.D. x 14" Lg. (Maybe turned in Socket to any Angle)	714–8

Upper and Lower Supporting Brackets For Offset Mast Type Model 10 Signals Type 3565-165 Type 3565-167 Type 3565-267

ASSEMBLIES AND REPLACEMENT PARTS



ORDERING REFERENCE

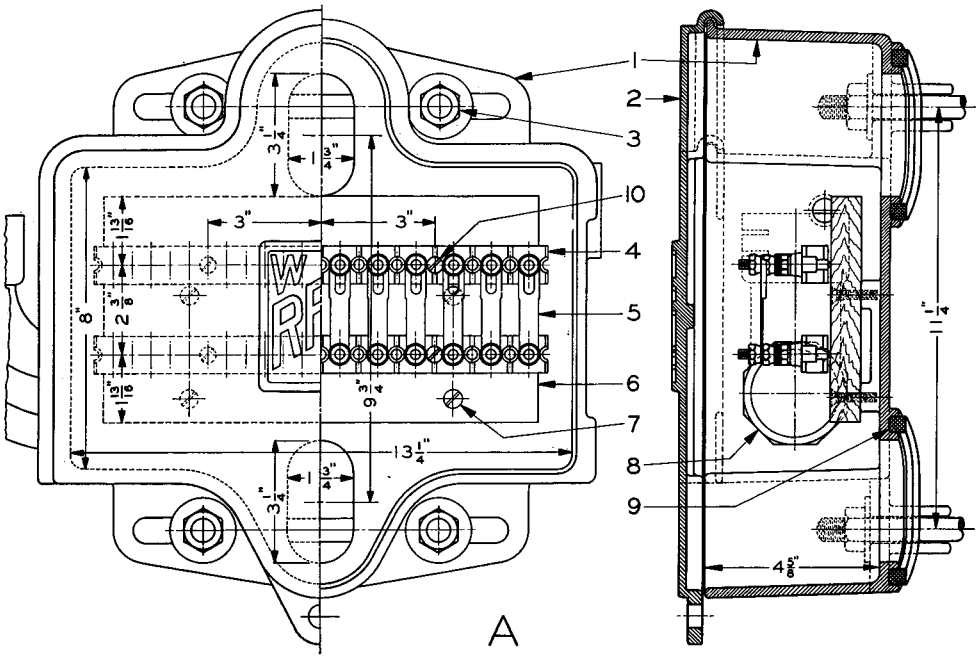
Specify Plate G228, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Upper Supporting Bracket Assembly (Specify Dimension "A" in inches)	3565–165
B	Lower Supporting Bracket Assembly (Specify Dimension "A" in inches)	3565–167
C	Supporting Bracket and Dowel Mast Assembly (Specify Dimension "A" in inches)	3565–267
1	Inner Support	3565–169
2	Outer Support	3565–164
3	Inner Support	3565–168
4	Outer Support	3565–166
5	Wire Opening Cover and Clamp Sub-Assembly	3565–162A
6	"U" Bolt for 4" I.D. Pipe	3565–163
6A	"U" Bolt for 4" I.D. Pipe	1264–4
7	"U" Bolt for 5" I.D. Pipe	1264–5
8	"U" Bolt for 6" I.D. Pipe	1264–6
9	Pipe, 4" I.D. (Length as Required)	
10	Dowel, 4" I.D. x 14" Lg. (Maybe turned in Socket to any Angle)	714–8
11	Pinnacle	110–6

WESTERN RAILROAD SUPPLY COMPANY

Junction Box
Type 1228W

ASSEMBLY AND REPLACEMENT PARTS



ORDERING REFERENCE

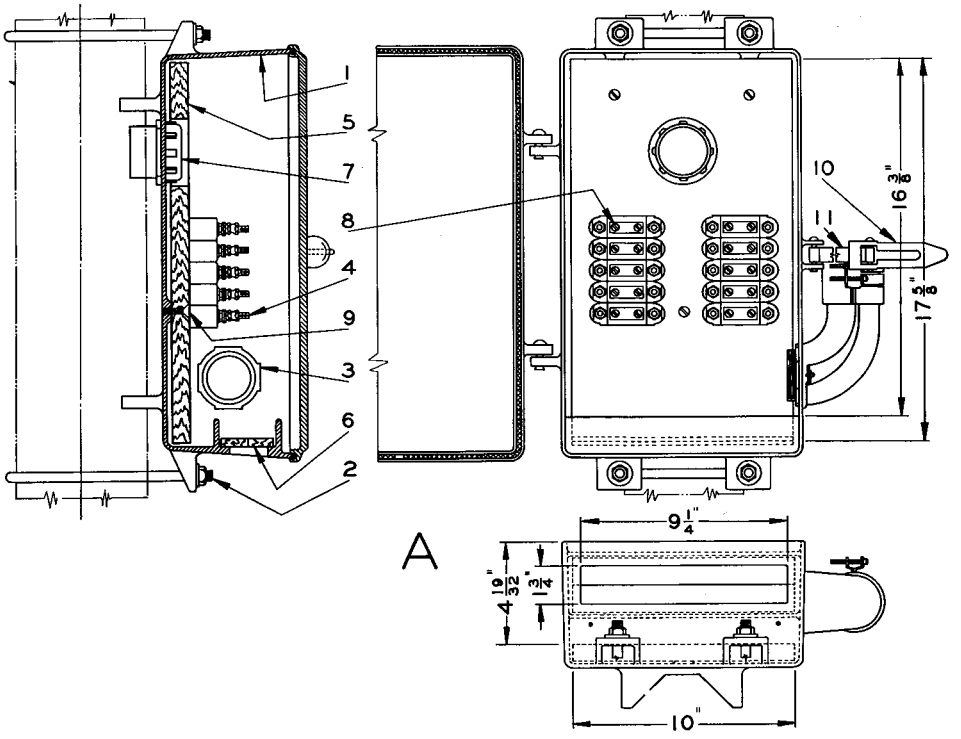
Specify Plate No. G230, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Junction Box Complete with Terminals and "U" Bolts	1228W
1	Case	1228–2
2	Cover	1228–3
3	"U" Bolt, Complete with Nuts and Washers (For 5" I.D. Pipe)	1264–5
4	Terminal Strip (12 Way)	2508–112
5	Connector	1056–4
6	Terminal Board	1228–14
7	Mach. Screw, 14-24 x 1¼" Lg., Fl. Hd	
8	2"-90 Squeeze Connector	
9	Torchwick Packing, 7/16" x 10⅞" Lg	
10	Wood Screw, #10 x 1" Lg. Rd. Hd	

WESTERN RAILROAD SUPPLY COMPANY

Junction Box
Type 1246-21P

ASSEMBLY AND REPLACEMENT PARTS



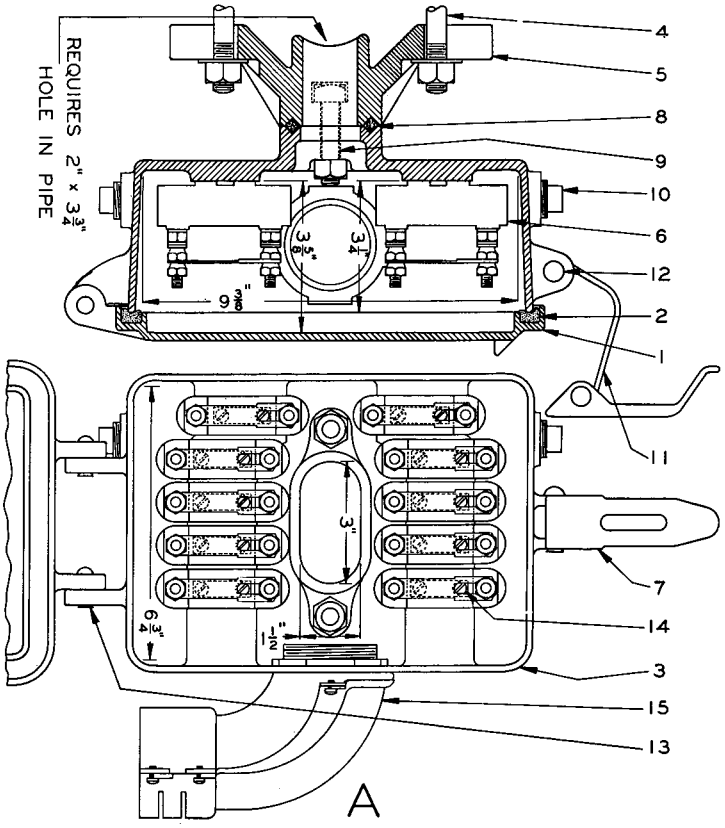
ORDERING REFERENCE

Specify Plate G232, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Junction Box Complete with Terminals and "U" Bolts	1246-21P
1	Sub-assembly of Case and Cover	1246-9B
1A	Case, only	1246-1AP
1B	Cover, complete with Packing and Staple	1246-3AP
2	"U" Bolt, complete with Nuts and Washers (For 5" I.D. Pipe)	1246-5
3	2"-90° Squeeze Connector	
4	Terminal Block	1056-5
5	Terminal Board	1246-27
6	Floor Board	1246-28
7	Pipe Nipple, 2" x 2" Lg., Bushing & Locknut	
8	Wood Screw, #10 x 1" Lg. Rd. Hd	
9	Mach. Screw, #10-32 x 1⅛" Lg. Fl. Hd	
10	Latch	1003-3
11	Spring	1003-5
11A	Hasp, Complete	1003-54

Junction Box
Type 1265-20C

ASSEMBLY AND REPLACEMENT PARTS



ORDERING REFERENCE

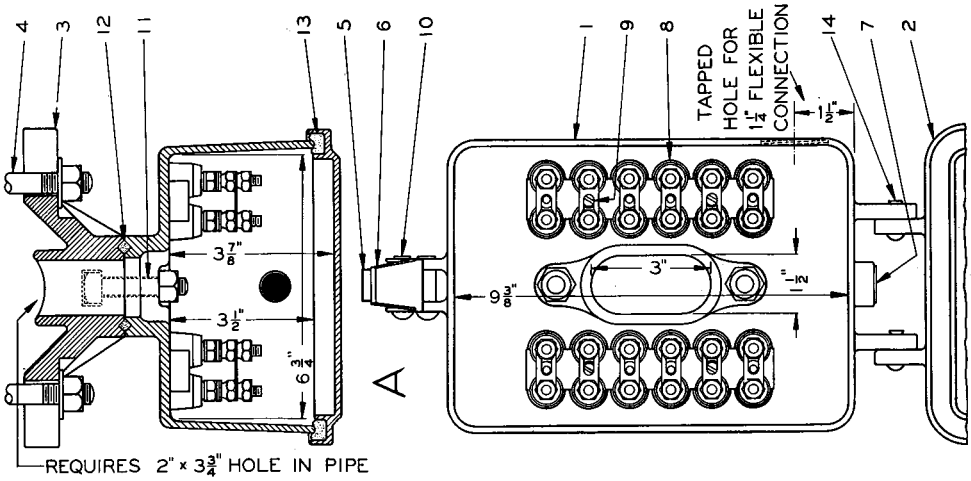
Specify Plate G234, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Junction Box Complete with Terminals and "U" Bolt	1265-20C
1	Cover Sub-assembly, Complete with Packing	1265-5
2	Torchwick Packing, 7/16" x 33" Lg	
3	Case	1265-1J
4	"U" Bolt Complete with Nuts and Washers (For 5" Pipe)	3364-5
5	Clamp	1265-102
6	Terminal Block	1056-5
7	Latch	1003-3
7A	Hasp Complete	1003-54
8	Torchwick Packing 7/16" x 11" Lg	
9	Mach. Bolt, ½"-13 x 2" Lg. Sq. Hd. and Hex. Nut	
10	Pipe Plug ½" Std., Iron	
11	Spring	1003-5
12	Rd. Hd. Rivet, 5/16" x 1½" Lg., Brass	
13	Rd. Hd. Rivet, ¼" x ⅞" Lg., Brass	
14	Mach. Screw, 10-32 x ¾" Lg., Rd. Hd., Brass	
15	2"-90° Sqeeze Connector	

WESTERN RAILROAD SUPPLY COMPANY

Junction Box
Type 1265-155AB

ASSEMBLY AND REPLACEMENT PARTS



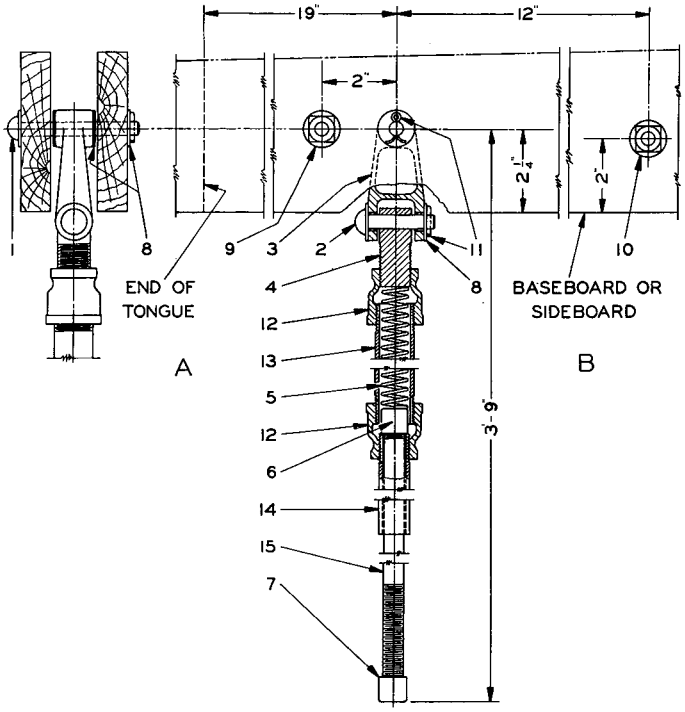
ORDERING REFERENCE
Specify Plate G236, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Junction Box Complete with Terminals and "U" Bolt	1265-155AB
1	Case	1265-101B
2	Cover Sub-assembly, Complete with Packing	1265-5
3	Clamp	1265-102
4	"U" Bolt, complete with Nuts and Washers (For 5" Pipe)	3364-5
5	Spring	1265-39
6	Latch	1003-3
6A	Hasp, complete	1003-54
7	Ventilator	1265-6
8	Terminal Strip (6 Way)	2506-16
9	Mach. Screw, 10-32 x ½" Lg. Rd. Hd. Brass	
10	Rd. Hd. Rivet, 5/16" x 1½" Lg. Brass	
11	Mach. Bolt, ½"-13 x 2" Lg. Sq. Hd., and Hex Nut	
12	Torchwick Packing, 7/16" x 11" Lg.	
13	Torchwick Packing, 7/16" x 33" Lg.	
14	Rd. Hd. Rivet, ¼" x ⅞" Lg. Brass	

WESTERN RAILROAD SUPPLY COMPANY

Buffer Leg
For Use With Roadway Arms 31' to 44' Long

ASSEMBLY AND REPLACEMENT PARTS



ORDERING REFERENCE
Specify Plate G238, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Buffer Leg Assembly Complete	3562-316A
B	Buffer Leg Assembly Complete, Less Ref. Nos. 9 and 10	3562-316
1	Rivet, ⅜" x 3¼" Lg., Steel	3562-133A
2	Rivet, ⅜" x 1⅞" Lg., Steel	3562-133
3	Yoke	3562-117B
4	Plug	3562-317
5	Compression Spring	3562-318
6	Pipe Cap., Iron	3562-319
7	Pipe Cap, ¼" Std., Iron	
8	Plain Washer, ⅜" I.D. x 1" O.D., Steel	
9	Mach. Bolt, ⅜"-16 x 3½" Lg., Sq. Hd., Sq. Nut and Plain Washer, Steel	
10	Mach. Bolt, ⅜"-16 x 5¼" Lg., Sq. Hd., Sq. Nut and Plain Washer, Steel	
11	Cotter Pin, 1/16" x ¾" Lg., Steel	
12	Reducer, ¾" x ½", Aluminum	
13	Pipe Nipple, ¾" x 12" Lg. T.B.E., Aluminum	
14	Pipe, ½" x 4½" Lg. T.O.E., Aluminum	3562-326
15	Pipe, ¼" x 2'5" Lg. Aluminum	3562-320

Plates No. G240 to No. G252

Replacement Parts for

Model 10

Highway Crossing Signal

Equipped with Type 3562 or Type 3563 Mechanism

(Manufacture Discontinued)

See Section G, Part No. 5

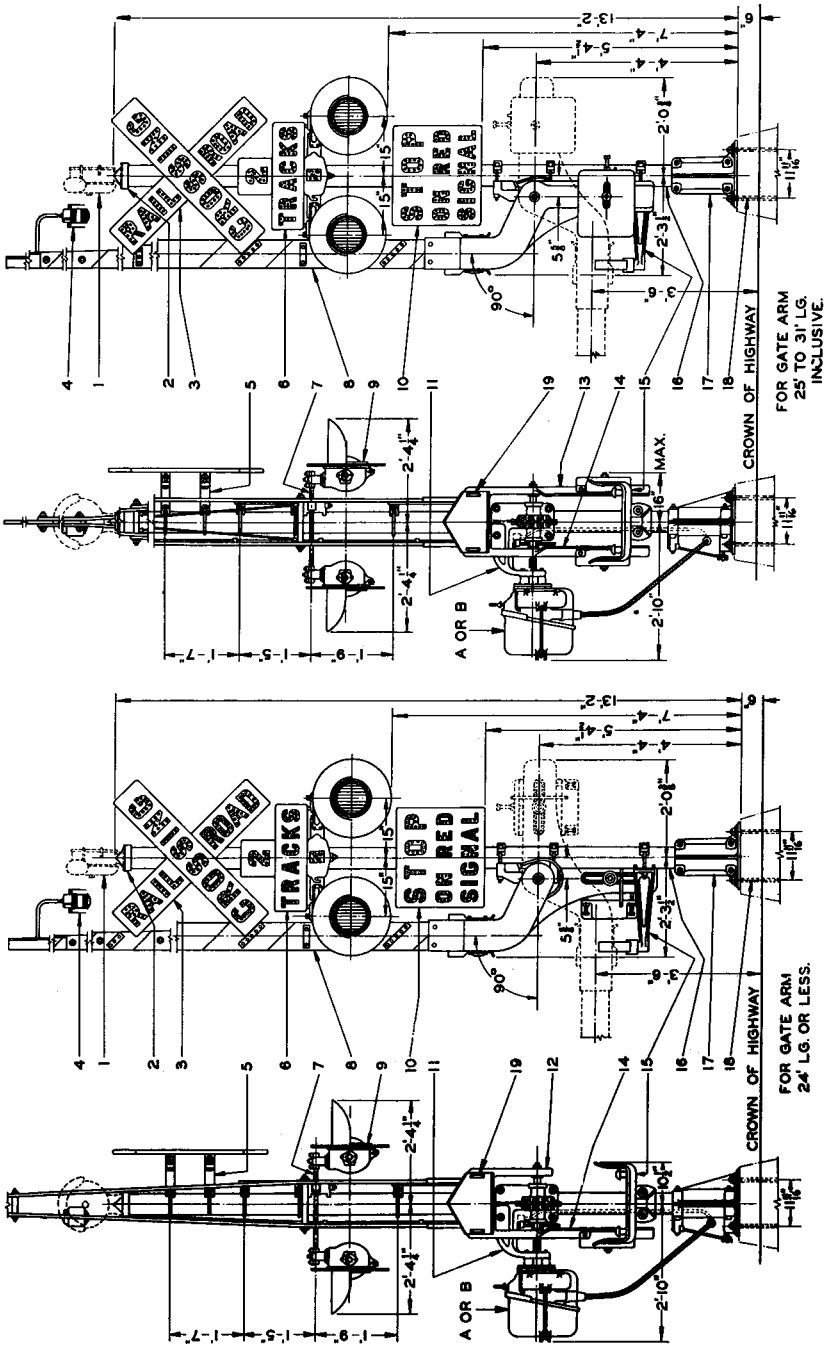
For Mechanism Replacement Parts

Detail Parts for Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

Equipped with Type 3562 or Type 3563 Mechanisms
(Manufacture Discontinued)

REPLACEMENT PARTS



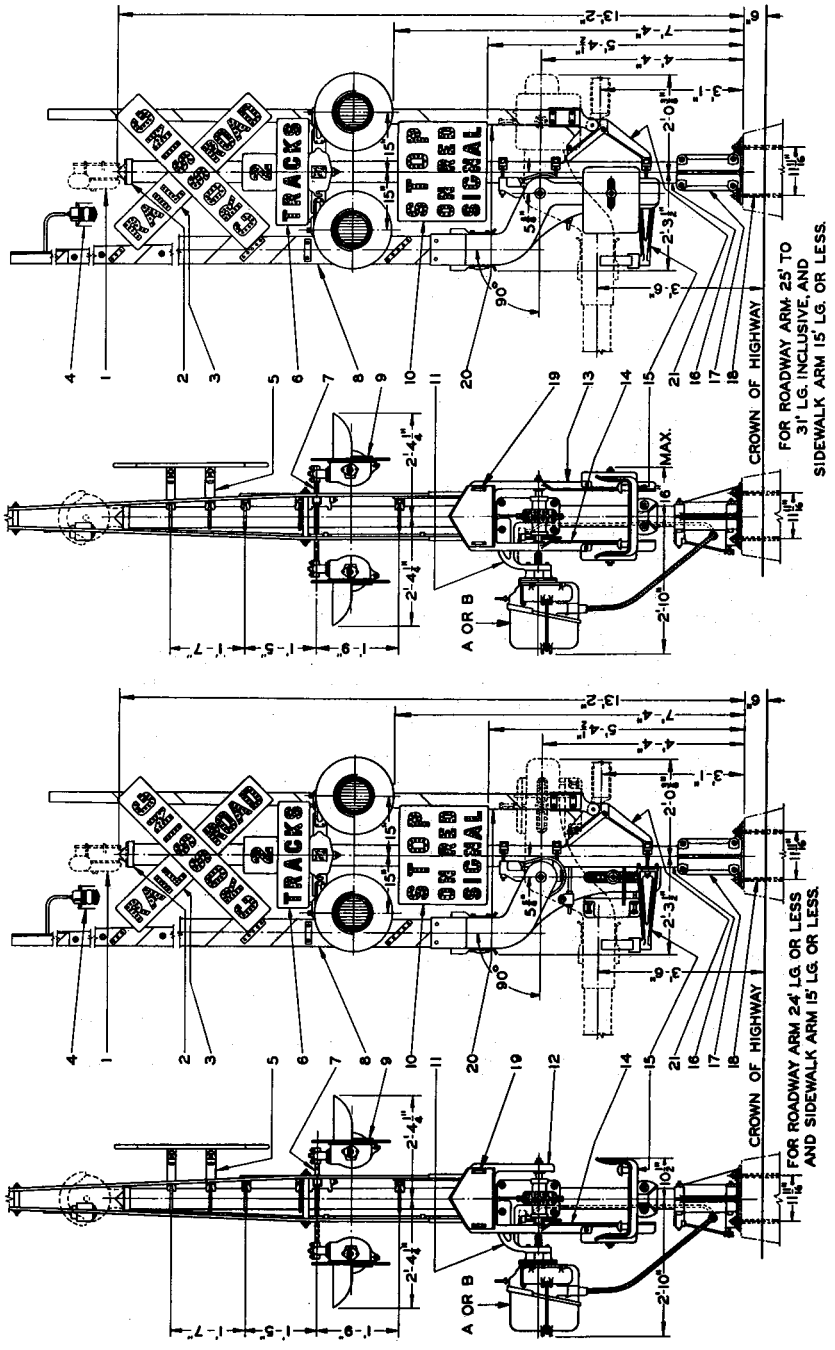
For Ordering Reference Data, See Pages 58 and 59.

Detail Parts for Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

Equipped with Type 3562 or Type 3563 Mechanisms
(Manufacture Discontinued)

REPLACEMENT PARTS


CROSS ROAD
RAIL ROAD
2 TRACKS
STOP ON RED SIGNAL
CROWN OF HIGHWAY
FOR ROADWAY ARM 25' TO 31' LG. INCLUSIVE, AND SIDEWALK ARM 15' LG. OR LESS.
FOR ROADWAY ARM 24' LG. OR LESS AND SIDEWALK ARM 15' LG. OR LESS.
A OR B
MAX.

For Ordering Reference Data, See Pages 58 and 59.

WESTERN RAILROAD SUPPLY COMPANY

Detail Parts for Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

Equipped with Type 3562 or Type 3563 Mechanisms
(Manufacture Discontinued)

REPLACEMENT PARTS

ORDERING REFERENCE

Specify Plate G240, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Crossing Gate Mechanism, 90° Operation, Gravity Down (For Details see Sec. G, Part 5)	3562-21GL-90
B	Crossing Gate Mechanism, 90° Operation, Power Down (For Details see Sec. G, Part 5)	3563-41GL-90
1	Crossing Bell for 5″ I.D. Pipe (For Details see Pl. B5)	222FR
2	Pinnacle for 5″ I.D. Pipe	110-8
3	Railroad Crossing Sign, Reflector Type, Vitreous Enamel, for 5″ I.D. Pipe (For Details see Pl. H25)	3380-3A
3A	Railroad Crossing Sign, Reflector Type, Synthetic Enamel, for 5″ I.D. Pipe (For Details see Pl. H25)	3380-4A
3B	Railroad Crossing Sign, Reflector Type, Synthetic Enamel, White Letters on Black Background, for 5″ I.D. Pipe (for Details see Pl. H25)	3380-204A
3C	Railroad Crossing Sign, Reflector Type, Vitreous Enamel, with Plain Embossed Letters on Back, for 5″ I.D. Pipe	3380-3AE
3D	Railroad Crossing Sign, Cast Iron Type, for 5″ I.D. Pipe (For Details see Pl. H10)	3320-115
3E	Railway Crossing Sign, Cast Iron Type, for 5″ I.D. Pipe	3250-115
4	Gate Light, Fresnel Lens Type (For Details see Pl. G209)	1585
4A	Gate Light, Two-Way Indication Type (For Details see Pl. G208)	1573-50
5	Extension Bracket (For Details see Pl. G222)	3366-40
6	"Number of Tracks" Sign, Reflector Type, Vitreous Enamel, for 5″ I.D. Pipe, Specify Numeral (For Details see Pl. H30)	3368-3A
6A	"Number of Tracks" Sign, Reflector Type, Synthetic Enamel, for 5″ I.D. Pipe, Specify Numeral (For Details see Pl. H30)	3368-4A
6B	"Number of Tracks" Sign, Cast Iron Type, for 5″ I.D. Pipe, Specify Numeral (For Details see Pl. H16)	16442-15
7	Junction Box Cross Arm Assembly for Types 950-201 and HC-81 Lights (For Details see Pl. G252)	950-52
7A	Junction Box Cross Arm Assembly for Type XC Lights (For Details see Pl. G252)	950-52G
8	Roadway Arm Complete, Wired for Three Gate Lights, Less Gate Lights (For Details see Pl. G242)	3562-34L
8A	Roadway Arm Complete, Less Wiring, Gate Lights and Reflector Buttons (For Details see Pl. G242)	3562-60

Detail Parts for Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

Equipped with Type 3562 or Type 3563 Mechanisms
(Manufacture Discontinued)

REPLACEMENT PARTS
(Continued)

ORDERING REFERENCE
Specify Plate G240, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
9	Flashing Light Unit with 30° Horizontal Spread, 15° Down Deflecting Roundel Unless Otherwise Specified (For Details see Plate D370). Other Roundels Available are Listed Below.	950–201
9A	Flashing Light Unit with 30° Horizontal Spread, 15° Down Deflecting Roundel Unless Otherwise Specified. (For Details see US&SCo. Cat. Plate K159). Other Roundels Available are Listed Below	HC–81
9B	Flashing Light Unit with 30° Spreadlite Roundel Unless Otherwise Specified. (For Details see GRSCo. Cat. Plate H2916 and H2918). Other Roundels Available are Listed Below.	XC
10	"Stop On Red Signal" Sign, Vitreous Enamel, for 5″ I.D. Pipe (For Details see Pl. H30)	3366–3A
10A	"Stop On Red Signal" Sign, Synthetic Enamel, for 5″ I.D. Pipe (For Details see Pl. H30)	3366–4A
11	Double Bearing Assembly for Gravity Down Type Mechanism (For Details see Sec. G, Part 5)	3562–40A
11A	Double Bearing Assembly for Power Down Type Mechanism (For Details see Sec. G, Part 5)	3562–40AX
12	Gate Support Arm (For Details see Plate G248)	3562–101
13	Gate and Counterweight Arm Assembly (For Details see Pl. G244)	3562–102L
14	Gate and Counterweight Arm Assembly (For Details see Pl. G244)	3562–103R
14A	Gate and Counterweight Arm Assembly (Required when Sidewalk Arm is Used) (For Details see Pl. G244)	3562–103RX
15	Stop Bracket Assembly (For Details see Pl. G250)	3562–43A
16	Pipe Mast, 5″ I.D. x 13′0″ Lg	715–35
17	Junction Box Clamp Type Base (For Details see Pl. G224)	2149–11B
18	Anchor Bolts, 1″ x 36″ Long	11079
19	Gate Arm Support (For Details see Pl. G248)	3562–205X
20	Sidewalk Arm Complete (Less Wiring) (For Details see Pl. G243)	3563–60SW
20A	Sidewalk Arm Complete (Wired for One Gate Light) (For Details see Pl. G243)	3563–34SW
21	Sidewalk Arm Attachment Assembly, Complete (For Details see Pl. G246)	3562–240

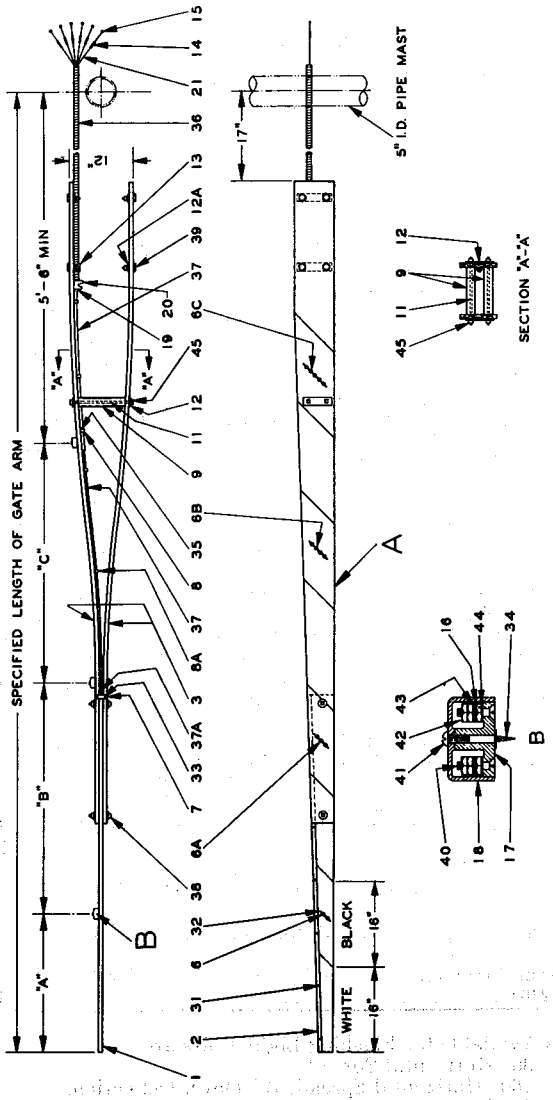
Note: Roundels Available for Flashing Light Units are:
CL-17, 30° Horizontal Spread.
5319, 160° Horizontal Spread, 12° Down Deflection.
5321, 20° Deflecting.
5323, 30° Horizontal Spread, 15° Down Deflection.
5327, 20° Horizontal Spread, 32° Down Deflection.
5332, 70° Horizontal Spread.
5333, Diffusion-deflection Type, With Horizontal and Downward Spread.

WESTERN RAILROAD SUPPLY COMPANY

Roadway Arms 15' to 19' Long For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G240

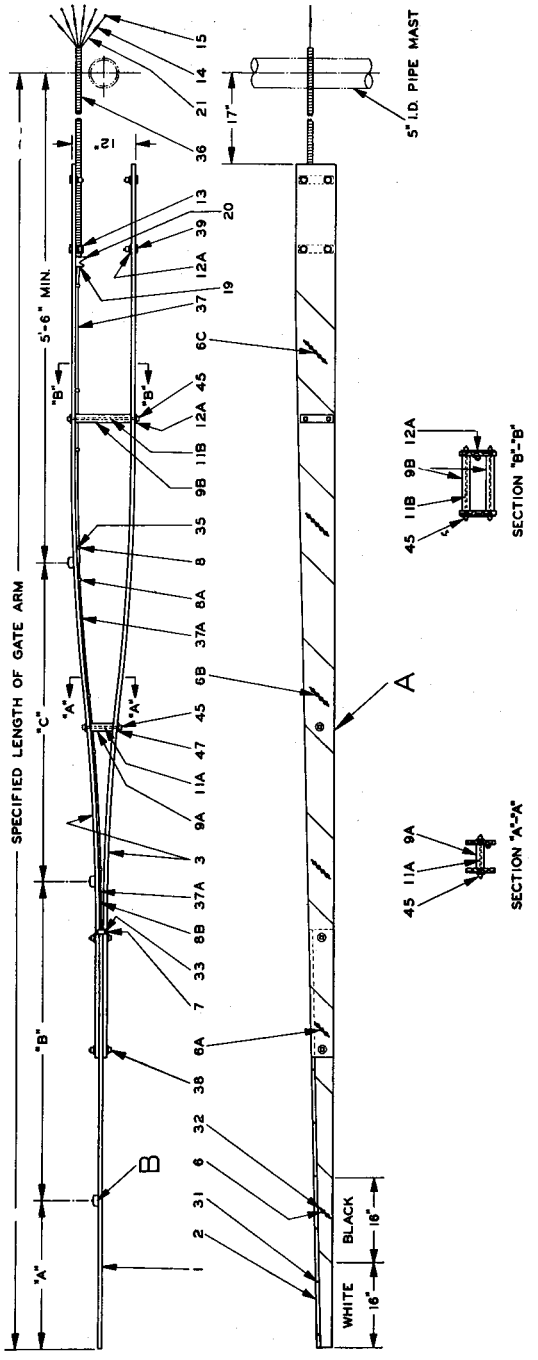


For Ordering Reference Data, See Pages 64 to 66.

Roadway Arms 20' to 25' Long For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G240

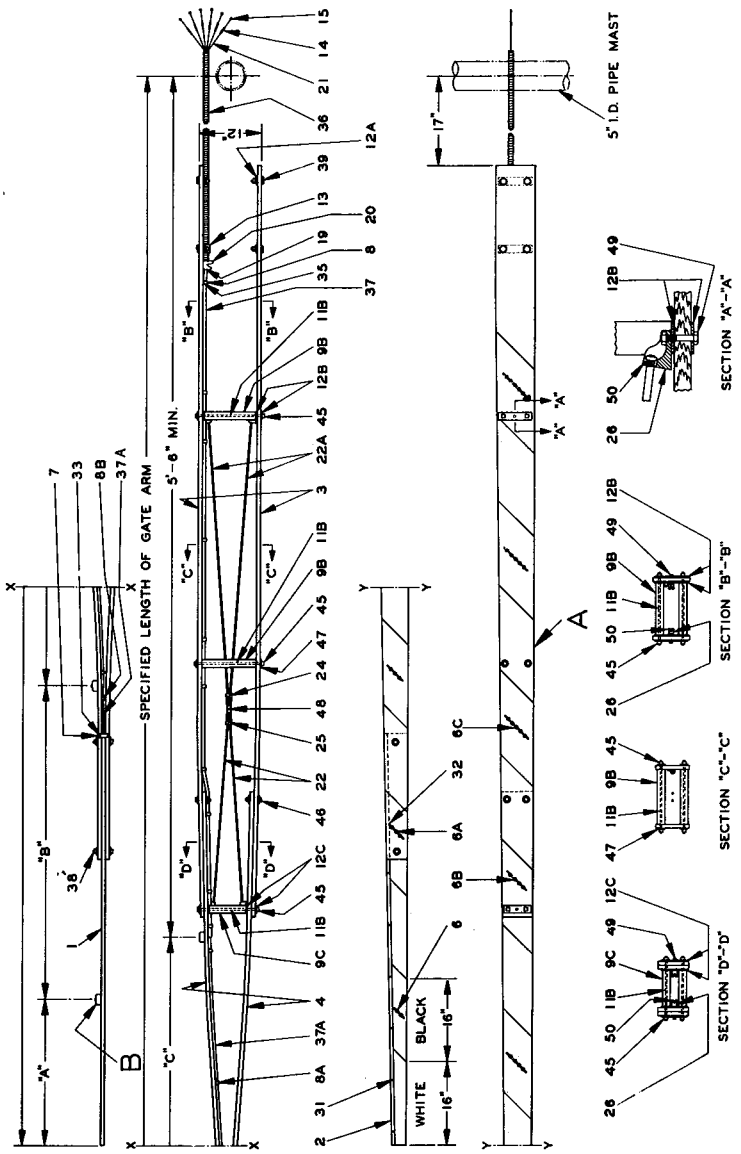


For Ordering Reference Data, See Pages 64 to 66.

Roadway Arms 26' to 31' Long For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G240

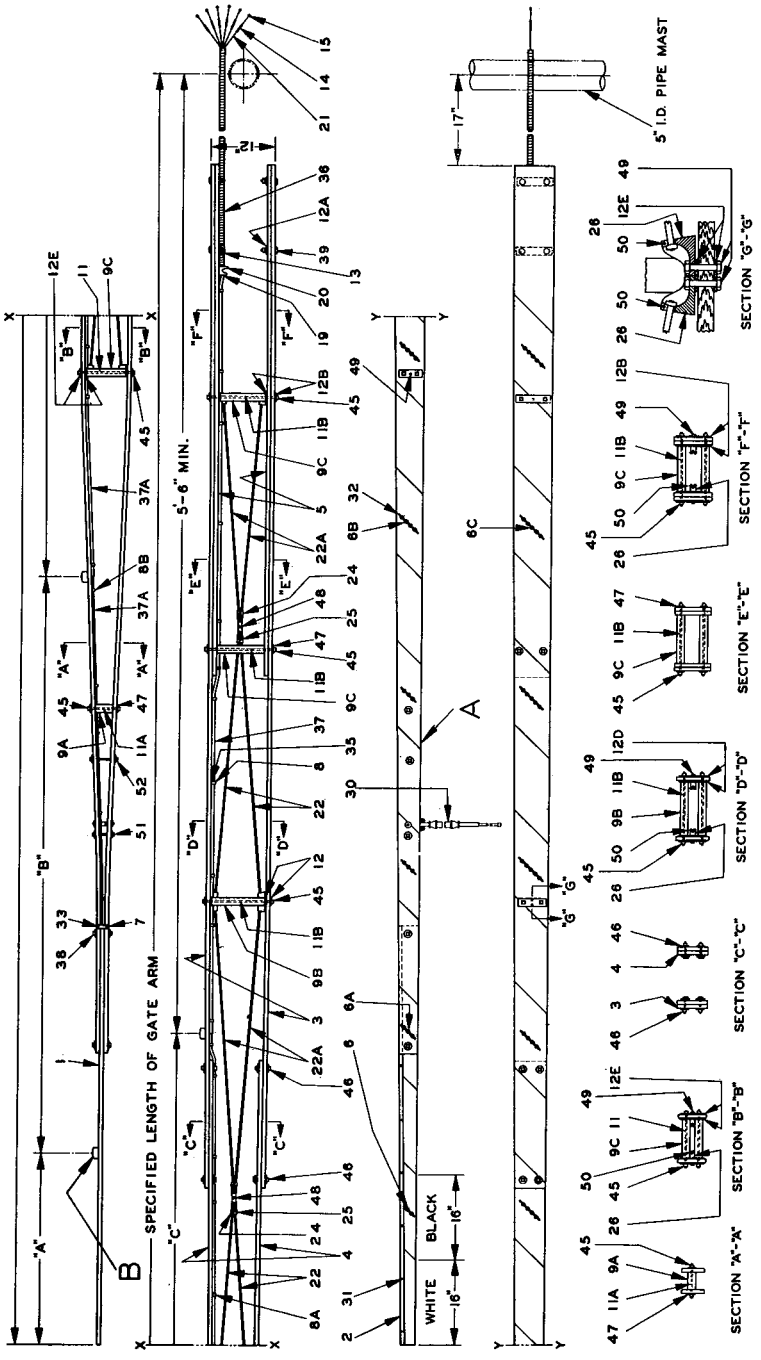


For Ordering Reference Data, See Pages 64 to 66.

Roadway Arms 32' to 39' Long For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G240



For Ordering Reference Data, See Pages 64 to 66.

Roadway Arms
For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS
For Signal Assemblies Shown on Plate G240

ORDERING REFERENCE
Specify Plate G242, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Assembly of Roadway Arm Complete with Wiring and Reflector Buttons. (Less Gate Lights) (Specify Length of Roadway Arm and Dimensions "A", "B", "C".)	3562-34L
A-1	Assembly of Roadway Arm Complete, Less Wiring, Reflector Buttons and Reenforcing Channel. (Specify Length of Roadway Arm)	3562-60
B	Assembly of Terminal Block Complete	3561-196
1	Tongue (See Table, Page 66)	
2	Reenforcing Channel (See Table, Page 66)	
3	Baseboard (See Table, Page 66)	
4	Sideboard (See Table, Page 66)	
5	Reenforcing Board (See Table, Page 66)	
6	Crystal Reflector Buttons (2 Button Chain)	3562-170-2
6A	Crystal Reflector Buttons (3 Button Chain)	3562-170-3
6B	Crystal Reflector Buttons (4 Button Chain)	3562-170-4
6C	Crystal Reflector Buttons (5 Button Chain)	3562-170-5
7	Channel Retaining Strip	3561-154
8	Clip for ½" Loom	3562-96
8A	Clip for ⅜" Loom	3562-95
8B	Clip for 7/32" Loom	3562-94
9	Spacer Block, 9" Lg.	3562-93
9A	Spacer Block, 4" Lg.	3562-76
9B	Spacer Block, 10⅛" Lg.	3562-75
9C	Spacer Block, 8½" Lg.	3562-90R
11	Through Stud, 11⅜" Lg.	3562-66G
11A	Through Stud, 6½" Lg.	3562-66D
11B	Through Stud, 12¾" Lg.	3562-66E
12	Washer Plate	3562-72
12A	Washer Plate	3562-71
12B	Washer Plate	3562-71A
12C	Washer Plate	3562-72A
12D	Washer Plate	3562-72B
12E	Washer Plate	3562-82A
13	Hanger for Flexible Conduit	3565-153
14	Marking Tag	5600-6

WESTERN RAILROAD SUPPLY COMPANY

Roadway Arms
For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G240
(Continued)

ORDERING REFERENCE

Specify Plate G242, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
15	Wire Terminal	31906
16	Wire Terminal	31903
17	Terminal Block Only (For Ref. B)	3561–197A
18	Terminal Block Cover Only (For Ref. B)	3561–198
19	Internal Bushing	3565–197
20	Conduit Clamp	3565–194A
21	Wire No. 14, 2/64, 30% S. C. Flex S. B., W. P. Finish, 19/.0147 (Specify Length)	90913
22	Tie Rod and Nut, 41½″ Long, Right Hand Thread	3562–63E
22A	Tie Rod and Nut, 48″ Long, Left Hand Thread	3562–63F
24	Turnbuckle	3562–67
25	Turnbuckle	3562–68
26	Tie Rod Clip	3562–70A
30	Buffer Leg Assembly (For Details see Pl. G238)	3562–316
31	Wood Screw, No. 6 x ⅝″ Lg., Rd. Hd. Brass	
32	Wood Screw, No. 6 x ½″ Lg., Theft Resisting	
33	Wood Screw, No. 8 x ⅝″ Lg., Rd. Hd. Brass	
34	Wood Screw, No. 6 x ¾″ Lg., Fl. Hd. Brass	
35	Wood Screw, No. 12 x ¾″ Lg. Rd. Hd. Brass	
36	Penflex Metallic Tubing ¾″ x 54″ Long	
37	⅝″ Duroduct Loom (Specify Length)	
37A	½″ Duroduct Loom (Specify Length)	
38	Mach. Bolt, ⅜″—16 x 3″ Lg. Sq. Hd. Steel, Hex. Nut and Two Plain Washers	
39	Mach. Bolt ½″—13 x 2″ Lg. Hex. Hd., Steel, Hex. Nut and Lockwasher	
45	Hex. Nut, ⅜″—16, Steel	
46	Mach. Bolt, ⅜″—16 x 2¼″ Lg. Sq. Hd. Steel, Hex. Nut and Two Plain Washers	
47	Washer 7/16″ I.D. x 1½″ O. D. Plain Steel	
48	Cap Screw ¼″—20 x 1¼″ Lg. Hex. Hd. Steel	
49	Mach. Bolt 5/16″—18 x 1¾″ Lg. Hex. Hd. Steel, and Hex. Nut	
50	Cotter Pin ⅛″ x 1½″ Lg. Steel	
51	Mach. Bolt, ⅜″—16 x 3½″ Lg. Sq. Hd. Steel, Hex. Nut and Two Plain Washers	
52	Mach. Bolt, ⅜″—16 x 5¼″ Lg. Sq. Hd. Steel, Hex. Nut and Two Plain Washers	

Ordering Reference Table

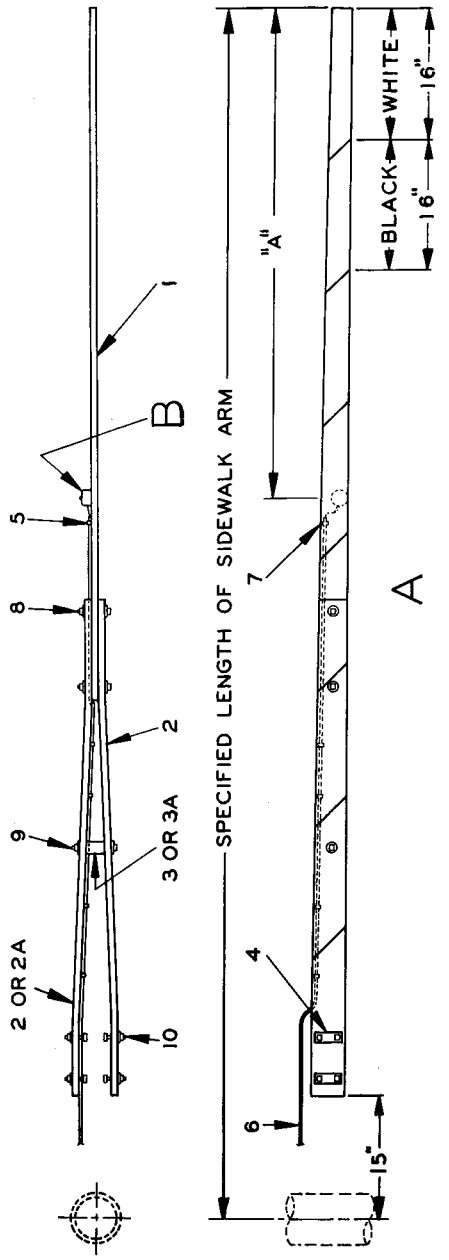
Specified Length of Gate Arm	Ref. 1 Reenforcing Channel	Ref. 2 Tongue	Ref. 3 Base Board	Ref. 4 Side Board	Ref. 5 Reenforcing Board
15 Ft.	3561-64B	3562-52	3562-51-10	.....	.....
16 Ft.	3561-64	3562-52A	3562-51-10	.....	.....
17 Ft.	3561-64	3562-52B	3562-51-10	.....	.....
18 Ft.	3561-64C	3562-52C	3562-51-10	.....	.....
19 Ft.	3561-64	3562-52B	3562-51-12	.....	.....
20 Ft.	3561-64	3562-52A	3562-51-14	.....	.....
21 Ft.	3561-64	3562-52B	3562-51-14	.....	.....
22 Ft.	3561-64C	3562-52C	3562-51-14	.....	.....
23 Ft.	3561-64	3562-52B	3562-51-16	.....	.....
24 Ft.	3561-64C	3562-52C	3562-51-16	.....	.....
25 Ft.	3561-63	3562-52D	3562-51-16	.....	.....
26 Ft.	3561-64	3562-52A	3562-53-12	3562-54-10	.....
27 Ft.	3561-64	3562-52B	3562-53-12	3562-54-10	.....
28 Ft.	3561-64C	3562-52C	3562-53-12	3562-54-10	.....
29 Ft.	3561-63	3562-52D	3562-53-12	3562-54-10	.....
30 Ft.	3561-64C	3562-52C	3562-53-12A	3562-54-12	.....
31 Ft.	3561-63	3562-52D	3562-53-12A	3562-54-12	.....
32 Ft.	3561-64	3562-52A	3562-53-16	3562-54-12A	3562-53-8
33 Ft.	3561-64	3562-52B	3562-53-16	3562-54-12A	3562-53-8
34 Ft.	3561-64C	3562-52C	3562-53-16	3562-54-12A	3562-53-8
35 Ft.	3561-63	3562-52D	3562-53-16	3562-54-12A	3562-53-8
36 Ft.	3561-64C	3562-52A	3562-53-16A	3562-54-16	3562-53-8
37 Ft.	3561-63	3562-52B	3562-53-16A	3562-54-16	3562-53-8
38 Ft.	3561-64C	3562-52C	3562-53-16A	3562-54-16	3562-53-8
39 Ft.	3561-63	3562-52D	3562-53-16A	3562-54-16	3562-53-8

MEMORANDA

WESTERN RAILROAD SUPPLY COMPANY

Sidewalk Arms
For Model 10 Signals
Type 3563-34SW Type 3563-60SW

ASSEMBLIES AND REPLACEMENT PARTS
For Signal Assemblies Shown on Plate G240



WESTERN RAILROAD SUPPLY COMPANY

Sidewalk Arms
For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS
For Signal Assemblies Shown on Plate G240

ORDERING REFERENCE
Specify Plate G243, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Assembly of Sidewalk Arm Complete with Wiring (Less Light) (Specify Length of Sidewalk Arm and Dimension "A")	3563-34SW
A-1	Assembly of Sidewalk Arm Complete (Less Wiring and Light) (Specify Length of Sidewalk Arm)	3563-60SW
B	Assembly of Terminal Block (See Pl. G200 for Details)	3561-196
1	Tongue (See Table)	.....
2	Base Board (See Table)	.....
2A	Base Board (For Type 3563-34SW Sidewalk Arm Only) (See Table)	.....
3	Spacer Block (For Type 3563-34SW Sidewalk Arm)	3565-150A
3A	Spacer Block (For Type 3563-60SW Sidewalk Arm)	3565-150
4	Washer Plate	3565-148
5	Clip	3562-95
6	#18-2 Conductor Neoprene Covered Type "S" Cord (Specify Length)	.....
7	Wood Screw, #10 x ¾", Brass	.....
8	Mach. Bolt, ⅜"-16 x 3¼" Lg., Sq. Hd., Hex. Nut and Plain Washer	.....
9	Mach. Bolt, ⅜"-16 x 4½" Lg., Sq. Hd., Hex. Nut and Plain Washer	.....
10	Mach. Bolt, ½"-13 x 1¾" Lg. Hex. Hd., Hex. Nut and Lock Washer	.....

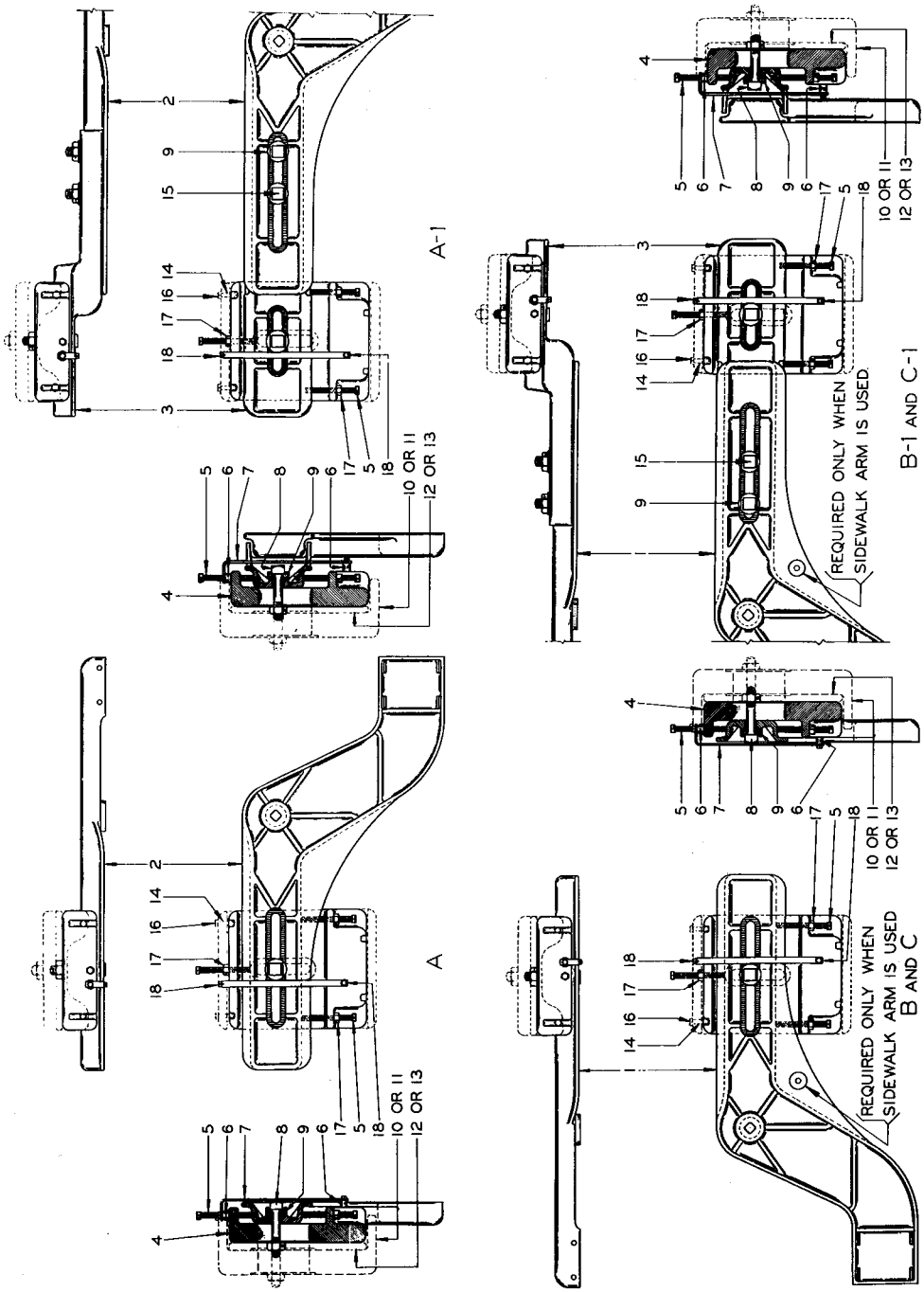
Table

Specified Length of Gate Arm	Ref. No. 1	Ref. No. 2	Ref. No. 2A	Suggested Values for Dimension "A"
8'-0"	3565-142-3	3565-141	3565-141A	3'-2"
8'-6"	3565-142-3A	3565-141	3565-141A	3'-5"
9'-0"	3565-142-4	3565-141	3565-141A	3'-8"
9'-6"	3565-142-4A	3565-141	3565-141A	3'-11"
10'-0"	3565-142-5	3565-141	3565-141A	4'-2"
10'-6"	3565-142-5A	3565-141	3565-141A	4'-5"
11'-0"	3565-142-6	3565-141	3565-141A	4'-8"
11'-6"	3565-142-6A	3565-141	3565-141A	4'-11"
12'-0"	3565-142-7	3565-141	3565-141A	5'-2"
12'-6"	3565-142-4A	3565-155	3565-155A	5'-5"
13'-0"	3565-142-5	3565-155	3565-155A	5'-8"
13'-6"	3565-142-5A	3565-155	3565-155A	5'-11"
14'-0"	3565-142-6	3565-155	3565-155A	6'-2"
14'-6"	3565-142-6A	3565-155	3565-155A	6'-5"
15'-0"	3565-142-7	3565-155	3565-155A	6'-8"

Gate and Counterweight Arm For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G240



WESTERN RAILROAD SUPPLY COMPANY

Gate and Counterweight Arm For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G240

ORDERING REFERENCE

Specify Plate G244, Reference Number, Description and Piece Number

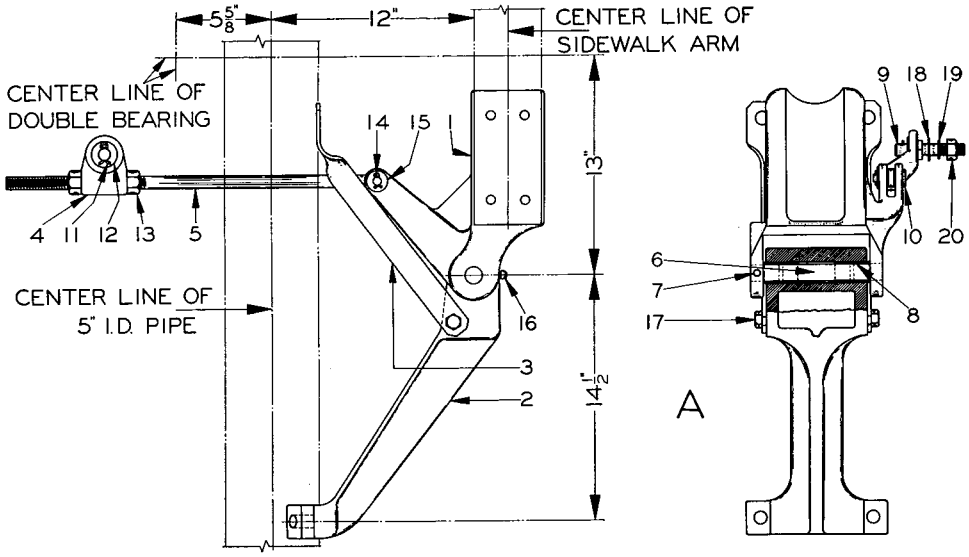
Ref. No.	Description	Piece No.
A	Gate and Counterweight Arm Assembly (For Roadway Arms 26′ to 31′ Lg. Inclusive) (Specify Length of Arm)	3562–102L
A-1	Gate and Counterweight Arm Assembly (For Roadway Arms 32′ to 39′ Lg. Inclusive) (Specify Length of Arm)	3562–102L
B	Gate and Counterweight Arm Assembly (For Roadway Arms 15′ to 31′ Lg. Inclusive) (Specify Length of Arm)	3562–103R
B-1	Gate and Counterweight Arm Assembly (For Roadway Arms 32′ to 39′ Lg. Inclusive) (Specify Length of Arm)	3562–103R
C	Gate and Counterweight Arm Assembly (For Roadway Arms 15′ to 31′ Lg. Inclusive) (Specify Length of Arm) (Required when Sidewalk Arm is Used)	3562–103RX
C-1	Gate and Counterweight Arm Assembly (For Roadway Arms 32′ to 39′ Lg. Inclusive) (Specify Length of Arm) (Required when Sidewalk Arm is Used)	3562–103RX
1	Right Hand Gate and Counterweight Arm Only	3562–103
1A	Right Hand Gate and Counterweight Arm Only (Required when Sidewalk Arm is Used)	3562–103X
2	Left Hand Gate and Counterweight Arm Only	3562–102
3	Counterweight Extension Arm	3562–174
4	Counterweight, 160 Lb.	3562–226
5	Dog Pt. Steel Set Screw, 5/8″—11 x 6″ Lg., Sq. Hd.	3562–211
6	Sleeve	3562–232
7	Retaining Strap	3562–233
8	Counterweight Mounting Bolt, 6″ Lg., Hex. Nut, & Plain Washer	3562–182–6
8A	Counterweight Mounting Bolt, 7″ Lg., Hex. Nut, & Plain Washer	3562–182–7
8B	Counterweight Mounting Bolt, 8″ Lg., Hex. Nut, & Plain Washer	3562–182–8
8C	Counterweight Mounting Bolt, 9″ Lg., Hex. Nut, & Plain Washer	3562–182–9
8D	Counterweight Mounting Bolt, 10″ Lg., Hex. Nut, & Plain Washer	3562–182–10
8E	Counterweight Mounting Bolt, 11″ Lg., Hex. Nut, & Plain Washer	3562–182–11
8F	Counterweight Mounting Bolt, 12″ Lg., Hex. Nut, & Plain Washer	3562–182–12
9	Clamp Washer	3565–104
10	Counterweight, 100 Lb.	3562–229
11	Counterweight, 200 Lb.	3562–230
12	Counterweight, 25 Lb.	3562–228
13	Counterweight, 50 Lb.	3562–227
14	Retaining Pin	3562–242
15	Mach. Bolt, 1″—8 x 3½″ Lg. Sq. Hd., Steel, Hex. Nut and Washer	
16	Hex. Nut, 3/8″—16	
17	Hex. Nut, 5/8″—11	
18	Cap Screw, 3/8″—16 x 1¾″ Lg. Hex. Hd., Steel	

WESTERN RAILROAD SUPPLY COMPANY

Sidewalk Arm Attachment For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G240



ORDERING REFERENCE

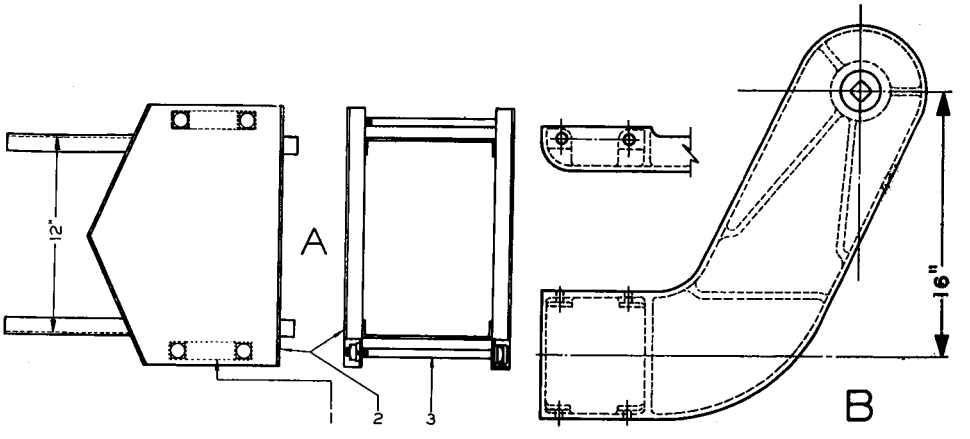
Specify Plate G246, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Sidewalk Arm Attachment Assembly Complete	3562-240
1	Support for Sidewalk Arm	3562-355
2	Knee Brace for Sidewalk Arm	3562-354 A
3	Brace for Sidewalk Arm	3562-357
4	Toggle	3562-352
5	Connecting Rod	3562-358
6	Shaft	3562-356
7	#5 Tapered Pin	
8	Bushing	3563-380
9	Stud	3562-351
10	Connecting Rod Pin	3562-359
11	Cotter Pin, ¼" x 2" Lg.	
12	Plain Steel Washer, ¾"	
13	Steel Hex. Nut, ¾"—10	
14	Cotter Pin, ⅛" x 1" Lg.	
15	Plain Steel Washer, ½"	
16	#1729 Alemite (Zerk) Grease Fitting	
17	Mach. Bolt, ½"—13 x 1" Lg., Hex. Hd., Steel	
18	Plain Steel Washer, ⅝"	
19	Steel Lock Washer, ⅝"	
20	Hex. Nut, ⅝"—11	

WESTERN RAILROAD SUPPLY COMPANY

Gate Arm Support and Gate Support Arm For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS
For Signal Assemblies Shown on Plate G240



ORDERING REFERENCE

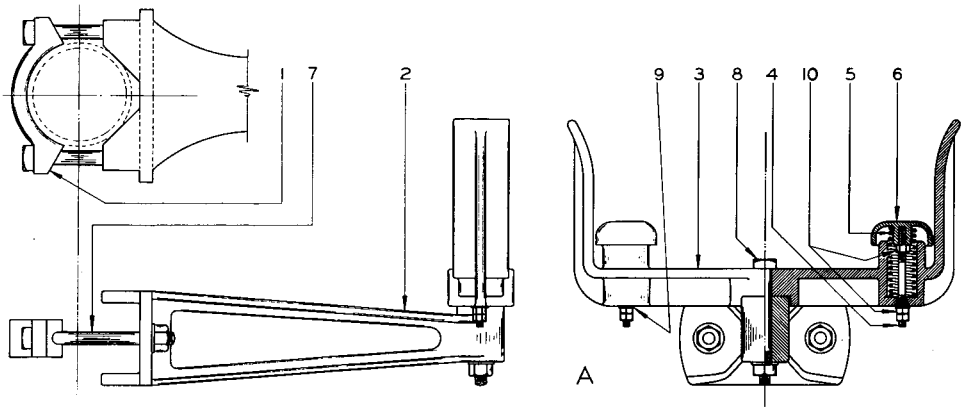
Specify Plate G248, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Gate Arm Support, Complete	3562-205X
B	Gate Support Arm	3562-101
1	Buffer Plate	3562-55
2	Gate Arm Support, only	3562-205
3	Mach. Bolt, ½"-13 x 9" Lg. Sq. Hd., Steel, Hex. Nut and Lock Washer	

WESTERN RAILROAD SUPPLY COMPANY

Stop Bracket
For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS
For Signal Assemblies Shown on Plate G240



ORDERING REFERENCE
Specify Plate G250, Reference Number, Description and Piece Number

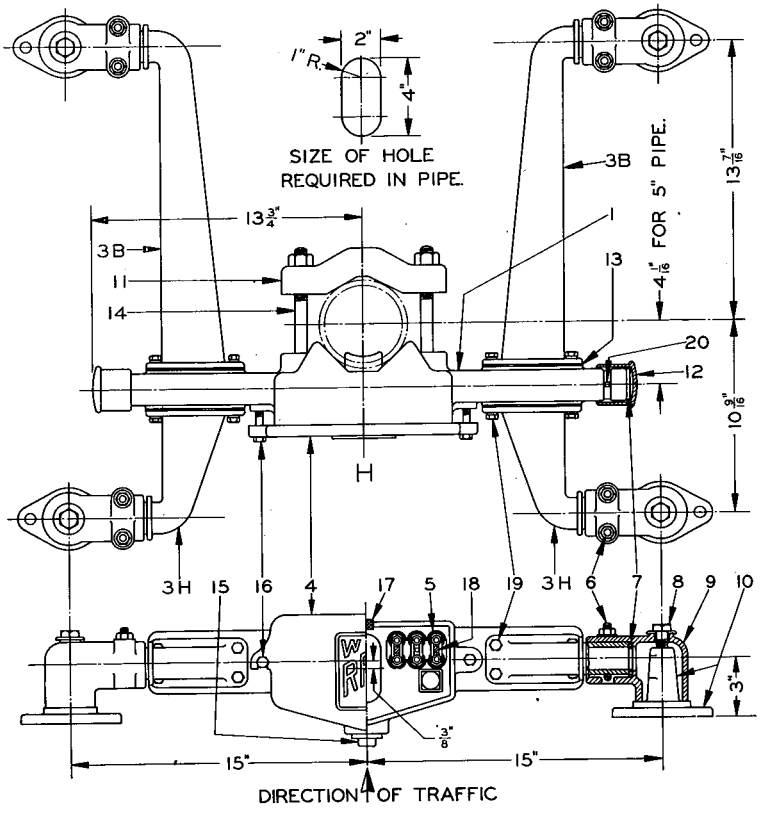
Ref. No.	Description	Piece No.
A	Stop Bracket Assembly, Complete	3562-43A
1	Mounting Clamp for 5″ I.D. Pipe	3561-92
2	Arm for Stop Bracket	3561-15
3	Arm Support for Stop Bracket	3562-31
4	Arm Buffer Stud	3562-47
5	Arm Buffer Spring	3562-33
6	Arm Buffer Cap	3562-32
7	Mach. Bolt, ¾″-10 x 7½″ Lg., Sq. Hd., Hex. Nut and Plain Steel Washer	
8	Mach. Bolt, ⅝″-11 x 6½″ Lg., Sq. Hd., Hex. Nut and Plain Steel Washer	
9	Plain Steel Washer, ⅜″	
10	Steel Hex. Nut, ⅜″-16′	

WESTERN RAILROAD SUPPLY COMPANY

Junction Box Cross Arm For Two Way Indication Type 950-52 Type 950-52G

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G240



ORDERING REFERENCE

Specify Plate G252, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
H	Junction Box Cross Arm Assembly for Mounting Four 950-201, or Four HC-81 Light Units For 5" I. D. Pipe Mounting.....	950–52
H-1	Junction Box Cross Arm Assembly, with Adaptor (Ref. J, Page 42), for Mounting Four Type XC Light Units For 5" I. D. Pipe Mounting.....	950–52G

For detail parts, see pages 42 and 43.

MEMORANDA

Plates No. G254 to No. G260

Replacement Parts for

Model 10
Highway Crossing Signal

Equipped with Type 3561 Mechanism

(Manufacture Discontinued)

See Section G, Part No. 3

For Mechanism Replacement Parts

PLATE G254

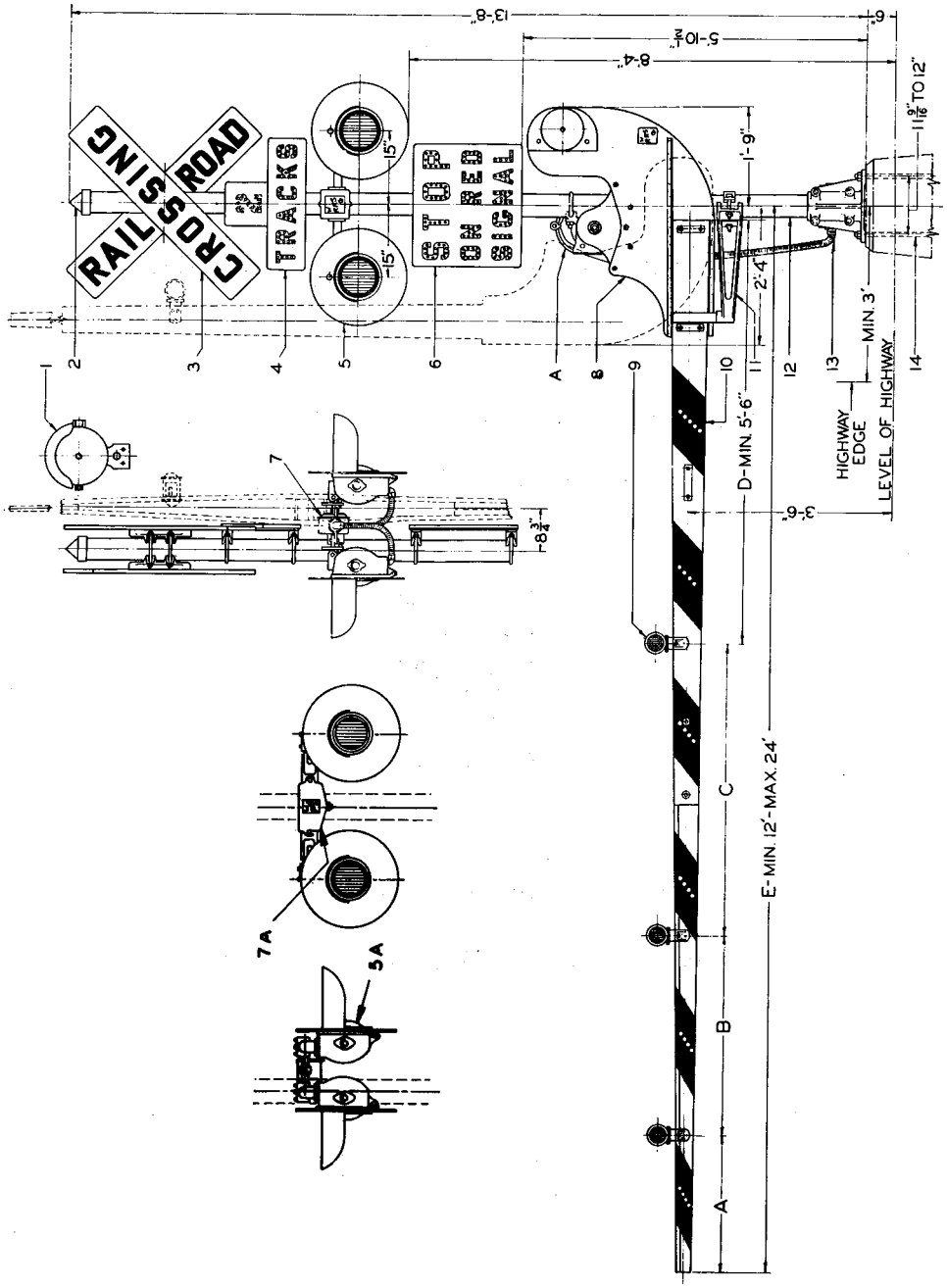
WESTERN RAILROAD SUPPLY COMPANY

Detail Parts for Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

Equipped with Type 3561 Mechanism
(Manufacture Discontinued)

REPLACEMENT PARTS



WESTERN RAILROAD SUPPLY COMPANY

Detail Parts for Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

Equipped with Type 3561 Mechanism
(Manufacture Discontinued)

REPLACEMENT PARTS

ORDERING REFERENCE

Specify Plate G254, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Left Hand Upper Quadrant, Type 3561-21GL Mechanism Only, (Specify whether for 4″ or 5″ I.D. Pipe Mounting) (For Details see Pl. G514)	3561-21GL
1	Crossing Bell for 4″ I.D. Pipe (For Details see Pl. B5)	222CR
1-A	Crossing Bell for 5″ I.D. Pipe (For Details see Pl. B5)	222FR
2	Pinnacle for 4″ I.D. Pipe	110-6
2-A	Pinnacle for 5″ I.D. Pipe	110-8
3	Railroad Crossing Sign, Cast Iron Type, for 4″ I.D. Pipe (For Details see Pl. H10)	3320-14
3-A	Railroad Crossing Sign, Cast Iron Type, for 5″ I.D. Pipe (For Details see Pl. H10)	3320-15
3-B	Railroad Crossing Sign, Reflector Type, Vitreous Enamel, for 4″ I.D. Pipe (For Details see Pl. H25)	3380-3
3-C	Railroad Crossing Sign Reflector Type, Vitreous Enamel, for 5″ I.D. Pipe (For Details see Pl. H25)	3380-3A
3-D	Railroad Crossing Sign, Reflector Type, Synthetic Enamel, for 4″ I.D. Pipe (For Details see Pl. H25)	3380-4
3-E	Railroad Crossing Sign, Reflector Type, Synthetic Enamel, for 5″ I.D. Pipe (For Details see Pl. H25)	3380-4A
4	"Number of Tracks" Sign, Cast Iron Type, for 4″ I.D. Pipe Specify Numeral, (For Details see Pl. H16)	16442-14
4-A	"Number of Tracks" Sign, Cast Iron Type, for 5″ I.D. Pipe Specify Numeral, (For Details see Pl. H16)	16442-15
4-B	"Number of Tracks" Sign, Reflector Type, Vitreous Enamel for 4″ I.D. Pipe Specify Numeral (For Details see Pl. H30)	3368-3
4-C	"Number of Tracks" Sign, Reflector Type, Vitreous Enamel, for 5″ I.D. Pipe Specify Numeral (For Details see Pl. H30)	3368-3A
4-D	"Number of Tracks" Sign, Reflector Type, Synthetic Enamel for 4″ I.D. Pipe Specify Numeral (For Details see Pl. H30)	3368-4
4-E	"Number of Tracks" Sign, Reflector Type, Synthetic Enamel, for 5″ I.D. Pipe Specify Numeral (For Details see Pl. H30)	3368-4A
5	Flashing Light Unit with 30° Horizontal Spread, 15° Down Deflecting Roundel Unless Otherwise Specified (For Details see Pl. D270). Other Roundels Available are Listed Below.	880-201
5-A	Flashing Light Unit with 30° Horizontal Spread, 15° Down Deflecting Roundel Unless Otherwise Specified (For Details see Pl. D370). Other Roundels Available are Listed Below.	950-201
6	"Stop on Red Signal" Sign, Vitreous Enamel, for 4″ I.D. Pipe (For Details see Pl. H30)	3366-3
6-A	"Stop on Red Signal" Sign, Vitreous Enamel, for 5″ I.D. Pipe (For Detail see Pl. H30)	3366-3A

Detail Parts for Model 10 Highway Crossing Signal

FLASHING LIGHT AND AUTOMATIC GATE ASSEMBLIES

Equipped with Type 3561 Mechanism
(Manufacture Discontinued)

REPLACEMENT PARTS
(Continued)

ORDERING REFERENCE

Specify Plate G254, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
6-B	"Stop on Red Signal" Sign, Synthetic Enamel, for 4" I.D. Pipe (For Details see Pl. H30)	3366-4
6-C	"Stop on Red Signal" Sign, Synthetic Enamel, for 5" I.D. Pipe (For Details see Pl. H30)	3366-4A
7	Junction Box Cross Arm Assembly for Type 880-201 Lights (Specify whether 4" I.D. or 5" I.D. Pipe Mounting) (For Details see Pl. D270)	865-5
7-A	Junction Box Cross Arm Assembly for Type 950-201 Lights (Specify whether 4" I.D. or 5" I.D. Pipe Mounting) (For Details see Pl. G220)	950-5
8	Mounting Plate Assembly (Specify Length of Arm) (For Details see Pl. G258)	3561-13L
9	Gate Light, Two-Way Indication Type (For Details see Pl. G208)	1573-50
9-A	Gate Light, Fresnel Lens Type (For Details see Pl. G209)	1585
10	Roadway Arm Complete, Wired for Three Gate Lights, Less Gate Lights (For Details see Pl. G256)	3561-34L
10-A	Roadway Arm Complete, Less Wiring, Gate Lights and Reflector Buttons (For Details see Pl. G256)	3561-60
11	Stop Bracket Assembly for 4" I.D. Pipe (For Details see Pl. G260)	3561-14
11-A	Stop Bracket Assembly for 5" I.D. Pipe (For Details see Pl. G260)	3561-14A
12	Pipe Mast 4" I.D. x 12'10" Lg.	.....
12-A	Pipe Mast 5" I.D. x 12'10" Lg.	.....
12-B	Stub Pole Pipe Mast 4" I.D. x 6'0" Lg.	.....
12-C	Stub Pole Pipe Mast 5" I.D. x 6'0" Lg.	.....
13	Split Base for 4" I.D. Pipe (For Details see Pl. E190)	2143
13-A	Split Base for 5" I.D. Pipe (For Details see Pl. E190)	2145
13-B	Junction Box Clamp Type Base for 4" I.D. Pipe (For Details see Pl. E115)	2147-11
13-C	Junction Box Clamp Type Base for 5" I.D. Pipe (For Details see Pl. E115)	2148-11
14	Anchor Bolt, ¾" x 24" Lg., with Nut and Washer (For Details see Pl. E190)	.....

Note: Roundels Available for Flashing Lights Units are:
CL-17, 30° Horizontal Spread.
5319, 160° Horizontal Spread, 12° Down Deflection.
5321, 20° Deflecting.
5323, 30° Horizontal Spread, 15° Down Deflection.
5327, 20° Horizontal Spread, 32° Down Deflection.
5332, 70° Horizontal Spread.
5333, Diffusion-deflection Type, With Horizontal and Downward Spread.

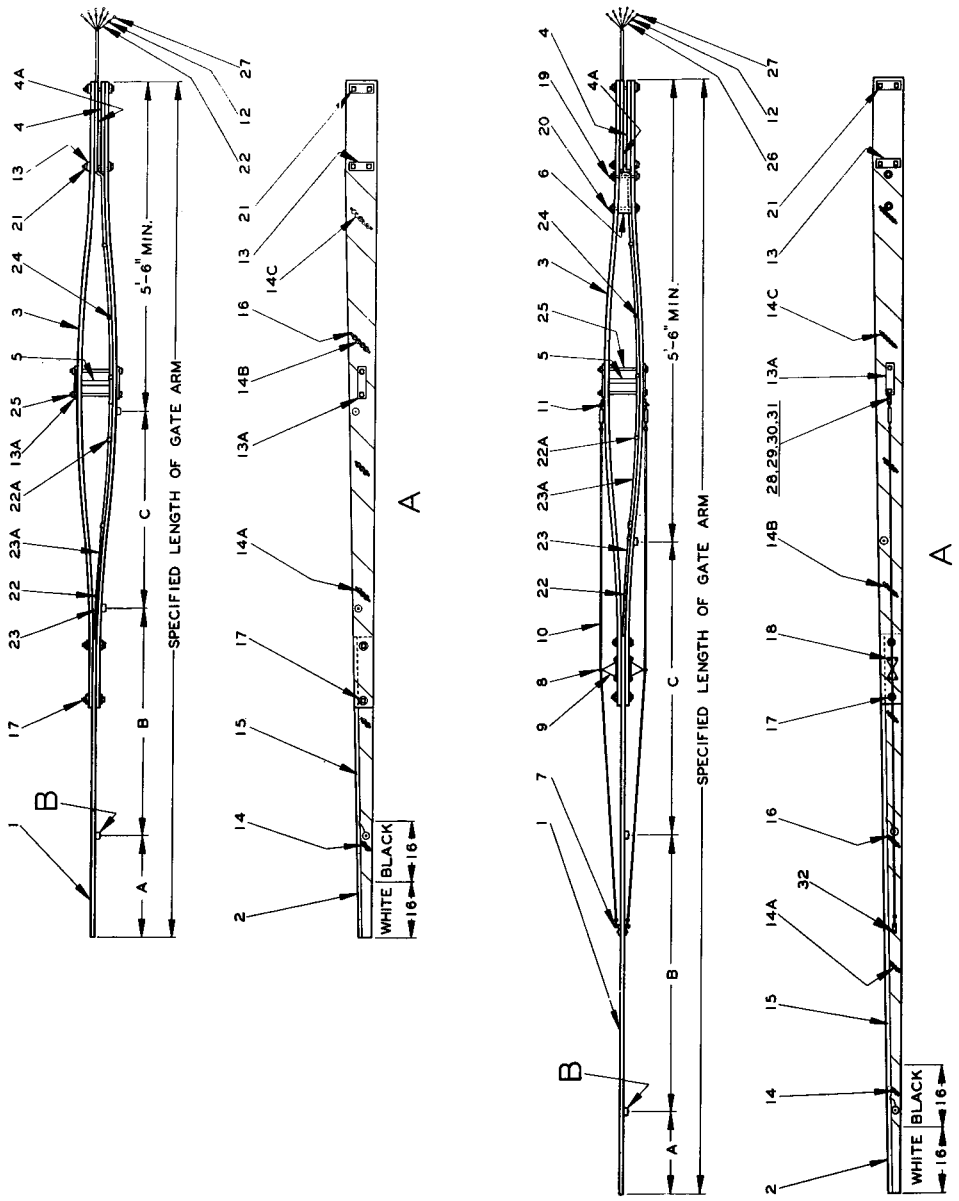
MEMORANDA

WESTERN RAILROAD SUPPLY COMPANY

Roadway Arms 14' to 24' Long For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G254



WESTERN RAILROAD SUPPLY COMPANY

Roadway Arms 14' to 24' Long For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G254

ORDERING REFERENCE

Specify Plate G256, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Assembly of Roadway Arm Complete with Wiring (Less Lights) (Specify Length of Roadway Arm and Dimensions "A", "B", "C")	3561-34L
A-1	Assembly of Roadway Arm Complete (Less Wiring, Lights and Reflector Buttons) (Specify Length of Roadway Arm)	3561-60
B	Assembly of Terminal Block (for Details see Pl. G200)	3561-196
1	Tongue (See Table)	
2	Reenforcing Channel (See Table)	
3	Side Board (See Table)	
4	Left Hand Filler Block	3561-24
5	Right Hand Filler Block	3561-25
6	Filler Block	3561-90
7	Hex. Nut 3/16"-24	
8	Retaining Clip	3561-54
9	Spanner Brace	3561-50
10	Cable Subassembly	3561-68
11	Bracket	3561-49A
12	Tag	5600-6
13	Washer Plate	3561-37
13A	Washer Plate	3561-37A
14	Crystal Reflector Button (2 Button Chain)	3562-170-2
14A	Crystal Reflector Button (3 Button Chain)	3562-170-3
14B	Crystal Reflector Button (4 Button Chain)	3562-170-4
14C	Crystal Reflector Button (5 Button Chain)	3562-170-5
15	Wood Screw #6 x 5/8" Lg. Rd. Hd. Brass (N.P.)	
16	Wood Screw #8 x 1/2" Lg. Theft Resisting, Brass (N.P.)	
17	Mach. Bolt 3/8"-16 x 3" Lg. Sq. Hd., Hex. Nut and Two Plain Washers	
18	Wood Screw, #10 x 1" Lg., Rd. Hd	
19	Mach. Bolt 3/8"-16 x 4 1/4" Lg. Sq. Hd., Hex. Nut and Two Plain Washers	
20	Mach. Bolt 3/8"-16 x 5" Lg. Sq. Hd., Hex. Nut and Two Plain Washers	
21	Mach. Bolt 3/8"-16 x 4 1/4" Lg. Sq. Hd., Hex. Nut and Lock Washer	
22	Clip for 3/8" Loom	3562-95
22A	Clip for 1/2" Loom	3562-96
23	3/8" Duroduct Loom (Specify Length)	
23A	1/2" Duroduct Loom (Specify Length)	
24	Wood Screw #12 x 3/4" Lg. Rd. Hd. Brass (N.P.)	
25	Mach. Bolt 3/8" x (See Table for Length)	
26	Wire #14, 2/64, 30% S.C. Flex. S.B., W. P. Finish, 19/.0147 (Specify Length)	90913
27	Terminal	31906

WESTERN RAILROAD SUPPLY COMPANY

Roadway Arms 14' to 24' Long For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G254
(Continued)

ORDERING REFERENCE

Specify Plate G256, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
28	Mach. Bolt 3/16"-24 x 1¼" Lg. Hex. Hd., Hex. Nut and Washer	
29	Mach. Screw, #10-24 x 1½" Lg., Rd. Hd., Hex. Nut and Plain Washer	
30	Hex. Nut #10-24	
31	Hex. Nut #10-24, Left Hand Thread	
32	Hex. Nut, 3/16"-24	

Table

Specified Length of Gate Arm	Tongue	Reenforcing Channel	Sideboard	Spacer Bolt
14′	3561–45	3561–64B	3561–44	5¼″
16′	3561–57	3561–64B	3561–56	5¾″
18′	3561–28	3561–64	3561–26	6¼″
20′	3561–59	3561–64	3561–58	7¼″
24′	3561–47	3561–63	3561–46	10″

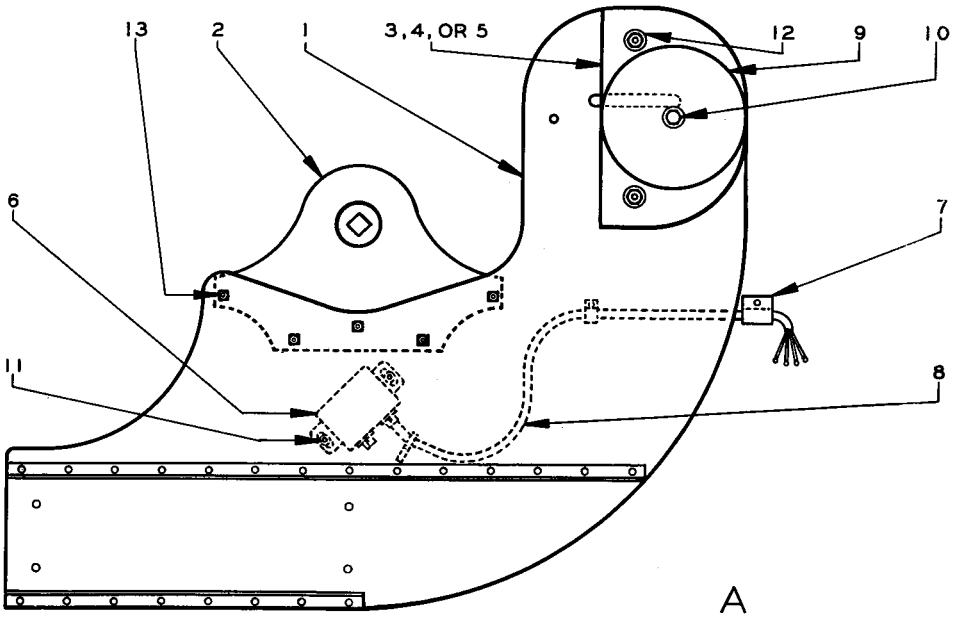
Note: For intermediate gate lengths not listed, always choose next larger length.

WESTERN RAILROAD SUPPLY COMPANY

Left Hand Mounting Plate For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS

For Signal Assemblies Shown on Plate G254



ORDERING REFERENCE

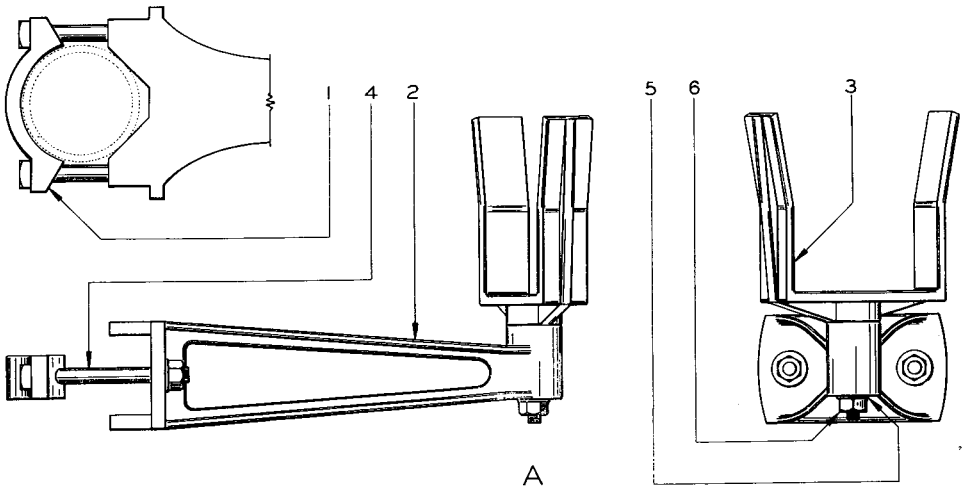
Specify Plate G258, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Left Hand Mounting Plate, Complete as Shown (Specify Length of Roadway Arm)	3561–13L
A-1	Left Hand Mounting Plate Complete, Less Items 3, 4, 5, 9, 10 and 12	3561–13LA
1	Left Hand Mounting Plate with Guide Angles Only	3561–84
2	A.A.R. Spectacle Hub	T-21050–A
3	75 Lb. Weight	3561–40
4	51 Lb. Weight	3561–41
5	12.5 Lb. Weight	3561–43
6	Junction Box Assembly	3561–71
7	Retaining Clip for Cable	3561–72
8	Cable Subassembly	3561–74
9	Disc (⅛" Thick)	3561–42
10	Cap Screw, ½"-13 x (Specify Length), Hex. Hd	
11	Cap Screw, 5/16"-18 x ¾" Lg., Hex. Hd. and Plain Washer	
12	Mach. Bolt, ½"-13 x (Specify Length), Hex. Hd. and 2 Plain Washers	
13	Mach. Bolt, ⅜"-16 x 1¼" Lg., Sq. Hd., Hex. Nut, and Lock Washer	

WESTERN RAILROAD SUPPLY COMPANY

Stop Bracket
For Model 10 Signals

ASSEMBLIES AND REPLACEMENT PARTS
For Signal Assemblies Shown on Plate G254



ORDERING REFERENCE
Specify Plate G260, Reference Number, Description and Piece Number

Ref. No.	Description	Piece No.
A	Stop Bracket Assembly Complete (For 5″ Pipe Mounting)	3561–14A
A-1	Stop Bracket Assembly Complete (For 4″ Pipe Mounting)	3561–14
1	Mounting Clamp for 5″ I.D. Pipe	3561–92
1A	Mounting Clamp for 4″ I.D. Pipe	3561–93
2	Arm for Stop Bracket	3561–15
3	Guide	3561–22
4	Mach. Bolt, ¾″-10 x 7½″ Lg., Sq. Hd., Hex. Nut and Plain Washer (For 5″ Pipe Mounting)	
4A	Mach. Bolt, ¾″-10 x 6½″ Lg., Sq. Hd., Hex. Nut and Plain Washer (For 4″ Pipe Mounting)	
5	Plain Steel Washer, ⅝″	
6	Steel Hex. Nut 1⅝″-11	

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Section

G

Part No. 5

Highway Crossing Gates

Mechanism Replacement Parts

WESTERN RAILROAD SUPPLY COMPANY

MANUFACTURERS

General Offices and Factory

2360 South Ashland Avenue

Chicago, Illinois

District Offices in

New York, N. Y. Houston, Tex. Cleveland, Ohio

Printed in U.S.A.

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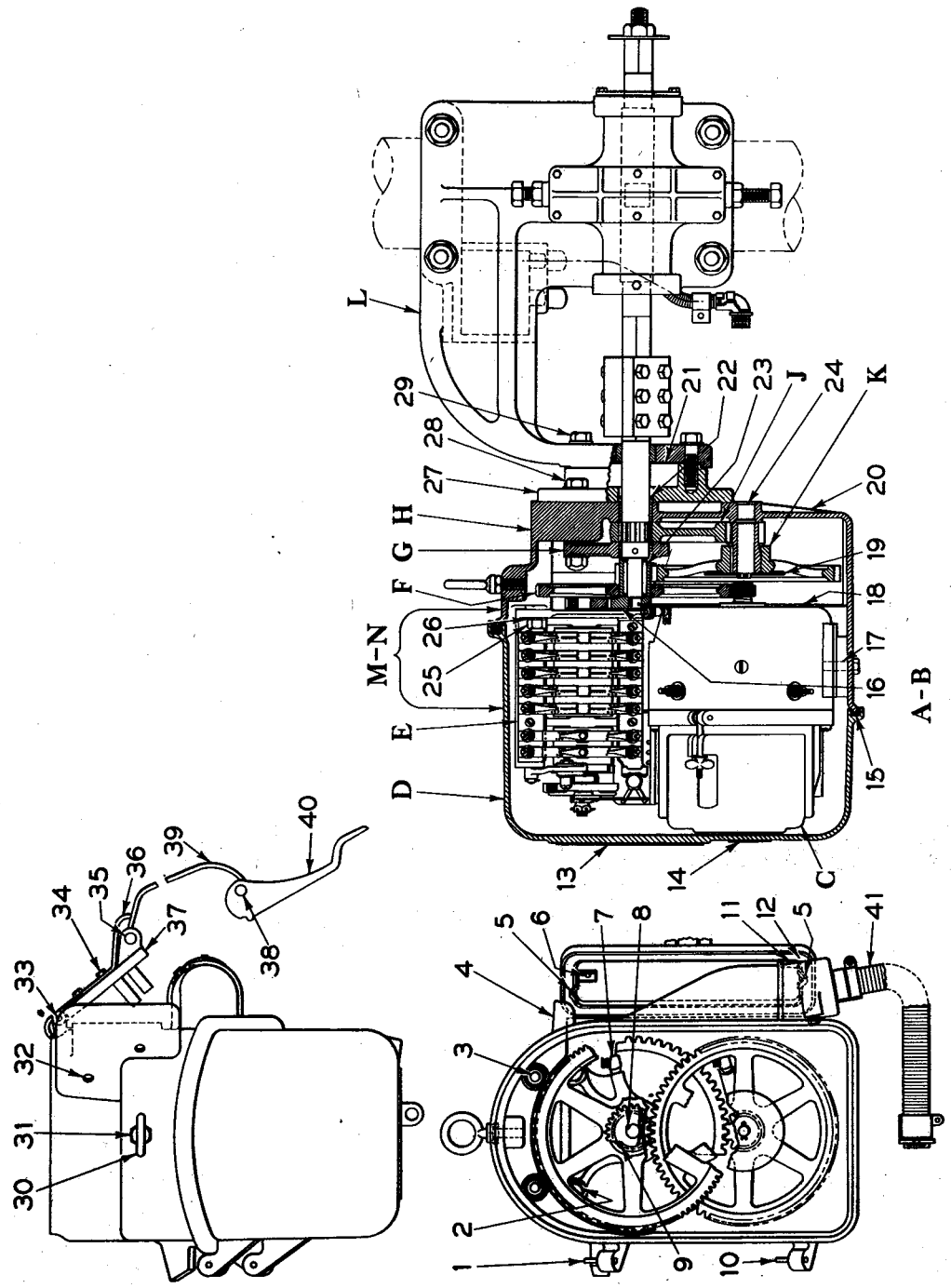


CROSSING GATE MECHANISM
WITH DOUBLE BEARING AND ADAPTER

CROSSING GATE MECHANISM WITH DOUBLE BEARING AND ADAPTER (For power-down and power-up operation)

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Mechanism Complete, with double bearing and adapter Fig. 27, for 0° to 90° L.H.U.Q. Crossing Gate Mechanism, for mounting on 5" pipe. Equipped with motor having centrifugal brake but without contacts operated by hold-clear armature as shown on Plate G-532. Gear ratio 256 to 1	3563-21 GL 3562-40 AX
B	Mechanism Complete, with double bearing and adapter Fig. 27, for 0° to 90° L.H.U.Q. Crossing Gate Mechanism, for mounting on 5" pipe. Equipped with motor having centrifugal brake and has contacts operated by hold-clear armature, as shown on Plate G-530. Gear ratio 256 to 1	3563-41 GL 3562-40 AX
C	Motor Complete, 8–10 volts. For details and order references see Plates G-530 and G-532	
D	Cover Complete, includes name plates and gasket .	52993 Gr. 3
E	Circuit Controller Complete. For details and order references see Plate G-520	
F	First Intermediate Gear Complete. For details and order references see Plate G-528 Fig. F	29965-1 Gr. 1
G	Bearing Bracket Complete. For details and order references see Plate G-528 Fig. D	29833 Gr. 1
H	Case Complete, includes all parts except circuit controller, motor, adapter, and bearing	29821 Gr. 6
J	Sector Complete, includes main shaft. For details and order references see Plate G-528 Fig. A	54240-2 Gr. 1
K	Second Intermediate Gear Complete. For details and order references see Plate G-526 Fig. C	29964-1 Gr. 2
L	Double Bearing Complete. For details and order references see Plate G-524 Fig. A	3562-40 AX
M	Mechanism Complete, per Fig. A, does not include double bearing Fig. L	3563-21 GL
N	Mechanism Complete, per Fig. B, does not include double bearing Fig. L	3563-41 GL
1	Stud, upper, hinge for door	16114
2	Dowel Screw, 5/8"-11 x 1-7/8" hex. hd., for mounting bearing bracket Fig. G	29849

CROSSING GATE MECHANISM WITH DOUBLE BEARING AND ADAPTER

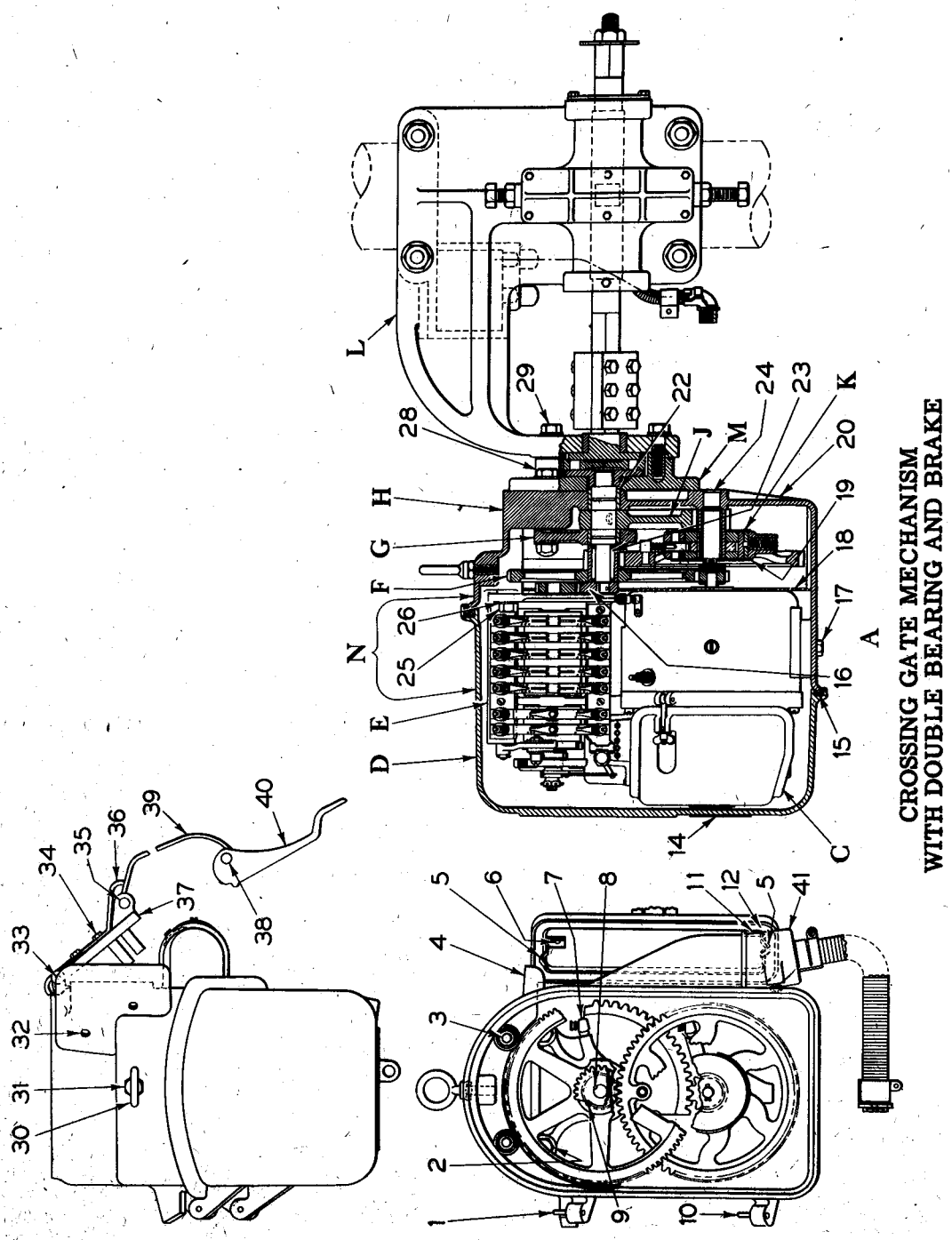
Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
3	Stud, 1/2"-13 x 2-1/8" lg., for mounting circuit controller	14934
4	Shield, for side door	30520
5	Latch, for side door	42018
6	Rivet, 3/16" x 1/2" rd. hd., for fastening latch to top of side door	0204
7	Oiler Complete, as shown, includes adapter	34232-16 Gr. 1
8	Woodruff Key, for fastening sector Fig. 16 to shaft	027
9	Cotter Pin, 3/16" x 2", for fastening sector Fig. 16 to shaft	046
10	Stud, lower, hinge for door	29869
11	Rivet, 3/16" x 3/8" rd. hd., for fastening latch to bottom of side door	0203
12	Gasket, 2' 7-5/8" lg., for side door	43460
13	Name Plate, with pins, for mechanism	57512 0224-1
14	Name Plate, with drive screws, for mechanism	401-276 52681-12
15	Gasket, 4' 6-1/4" lg., for cover Fig. D	43460
16	Sector, only, for operating circuit controller	29842
17	Screw, 3/8"-16 x 1-3/8" hex. hd., for mounting motor	30049
18	Partition, for case	30041
19	Washer, for gear Fig. K	30089
20	Case, only	29822
21	Gasket, for use between adapter Fig. 27 and double bearing Fig. L	3562-38
22	Bushing, for sector shaft in case Fig. 20	8942-51
23	Roller Bearing, for first intermediate gear Fig. F.	29998 Gr. 2
24	Stud Complete, for gear Fig. K, includes pin	52923 Gr. 1
25	Nut, 1/2"-13 x 7/16" hex., for stud Fig. 3	0286
26	Washer, for nut Fig. 25	17492

CROSSING GATE MECHANISM WITH DOUBLE BEARING AND ADAPTER

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
27	Adapter, for use between mechanism and double bearing.	57176
28	Tap Bolt, 5/8"-11 x 1-1/2" hex. hd., with lock washer, for fastening adapter to mechanism	0503 0113
29	Tap Bolt, 5/8"-11 x 1-3/4" hex. hd., with lock washer, for fastening double bearing to adapter . . .	0664 0113
30	Eyebolt, 1/2"-13, for use when lifting mechanism .	2102
31	Nut, 1/2"-13 x 5/16" th., hex., for eyebolt	41895
32	Screw, 1/4"-24 x 1/2" rd. hd., for mounting shield Fig. 4.	2449
33	Stud, hinge, for side door.	21527
34	Screw, 1/4"-20 x 7/8" hex. hd., with hex. nut and lock washer, for fastening stop Fig. 36 to side door	29767 424 0510
35	Pin, for fastening strap Fig. 39 to side door	7567
36	Stop, for side door	52971-4
37	Side Door, only	30040-2
38	Pin, for fastening strap Fig. 39 to hasp tongue. . . .	7005
39	Strap, for hasp tongue	30804-1
40	Hasp Tongue, for door.	16110
41	Conduit Adapter Complete, as shown	3561-79 A



CROSSING GATE MECHANISM
WITH DOUBLE BEARING AND BRAKE

CROSSING GATE MECHANISM WITH DOUBLE BEARING AND BRAKE
(For gravity-down and power-up operation)

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Mechanism Complete, with double bearing and brake Fig. M, for 0° to 90° L.H.U.Q. Crossing Gate Mechanism, for mounting on 5" pipe. Equipped with motor without centrifugal brake or without contacts operated by hold-clear armature, as shown on Plate G-534. Gear ratio 131 to 1	3562-21 GL 3562-40 A
C	Motor Complete, 8-10 volt. For details and order references see Plate G-534	29890-1 Gr. 12
D	Cover Complete, includes name plate and gasket . .	52993 Gr. 1
E	Circuit Controller Complete. For details and order references see Plate G-520	
F	First Intermediate Gear Complete. For details and order references see Plate G-528 Fig. E	29965 Gr. 1
G	Bearing Bracket Complete. For details and order references see Plate G-528 Fig. D	29833 Gr. 1
H	Case Complete, includes all parts except circuit controller, motor, brake, and bearing	29821 Gr. 8
J	Sector Complete. For details and order references see Plate G-528 Fig. B	54240 Gr. 1
K	Ratchet Gear Complete. For details and order references see Plate G-526 Fig. D	30080-1 Gr. 1
L	Double Bearing Complete. For details and order references see Plate G-524 Fig. B	3562-40 A
M	Brake Complete. For details and order references see Plate G-528 Fig. C	3562-122
N	Mechanism Complete, with brake Fig. M, does not include double bearing Fig. L.	3562-21 GL
1	Stud, upper, hinge for door	16114
2	Dowel Screw, 5/8"-11 x 1-7/8" hex. hd., for mounting bearing bracket Fig. G.	29849
3	Stud, 1/2"-13 x 2-1/8" lg., for mounting circuit controller	14934
4	Shield, for side door.	30520
5	Latch, for side door	42018
6	Rivet, 3/16" x 1/2" rd. hd., for fastening latch to top of side door	0204

CROSSING GATE MECHANISM WITH DOUBLE BEARING AND BRAKE

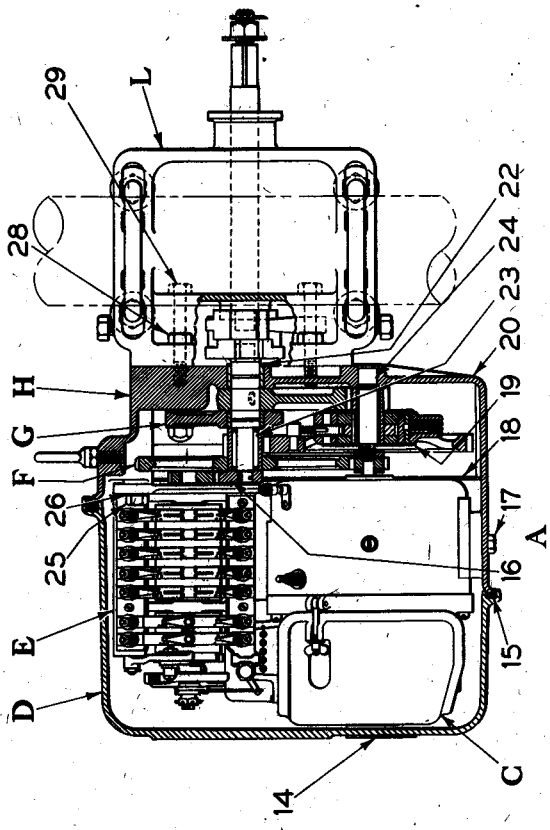
Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
7	Oiler Complete, as shown, includes adapter	34232-16 Gr. 1
8	Woodruff Key, for fastening sector Fig. 16 to shaft	027
9	Cotter Pin, 3/16" x 2", for fastening sector Fig. 16 to shaft	046
10	Stud, lower, hinge for door	29869
11	Rivet, 3/16" x 3/8" rd. hd., for fastening latch to bottom of side door	0203
12	Gasket, 2' 7-5/8" lg., for side door	43460
14	Name Plate, with drive screws, for mechanism	401-237 52681-12
15	Gasket, 4' 6-1/4" lg., for cover Fig. D	43460
16	Sector, only, for operating circuit controller	29842
17	Screw, 3/8"-16 x 1-3/8" hex. hd., for mounting motor	30049
18	Partition, for case	30041
19	Washer, for gear Fig. K	30089
20	Case, only	29822
22	Bushing, for sector shaft in case Fig. 20	29835
23	Roller Bearing, for first intermediate gear Fig. F.	29998 Gr. 2
24	Stud Complete, for gear Fig. K, includes pin.	52923 Gr. 1
25	Nut, 1/2"-13 x 7/16" hex., for stud Fig. 3	0286
26	Washer, for nut Fig. 25.	17492
28	Tap Bolt, 5/8"-11 x 1-1/2" hex. hd., with lock washer, for fastening brake Fig. M to mechanism	0503 0113
29	Tap Bolt, 5/8"-11 x 1-3/4" hex. hd., with lock washer, for fastening double bearing to brake Fig. M	0664 0113
30	Eyebolt, 1/2"-13, for use when lifting mechanism	2102
31	Nut, 1/2"-13 x 5/16" th. hex., for eyebolt.	41895
32	Screw, 1/4"-24 x 1/2" rd. hd., for mounting shield Fig. 4	2449
33	Stud, hinge, for side door	21527

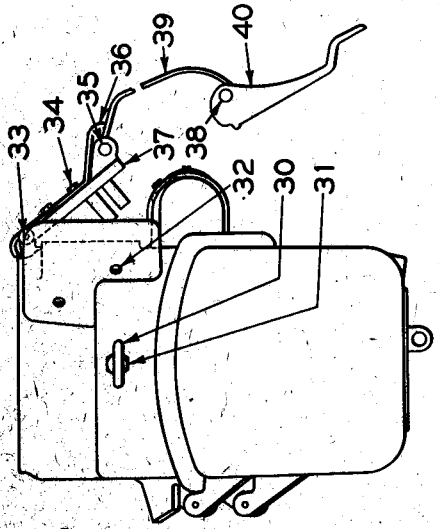
CROSSING GATE MECHANISM WITH DOUBLE BEARING AND BRAKE

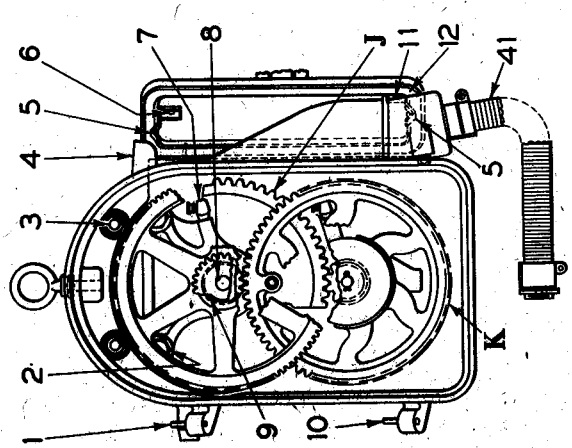
Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
34	Screw, 1/4"-20 x 7/8" hex. hd., with hex. nut and lock washer, for fastening stop Fig. 36 to side door	29767 424 0510
35	Pin, for fastening strap Fig. 39 to side door	7567
36	Stop, for side door	52971-4
37	Side Door, only	30040-2
38	Pin, for fastening strap Fig. 39 to hasp tongue . . .	7005
39	Strap, for hasp tongue.	30804-1
40	Hasp Tongue, for door	16110
41	Conduit Adapter Complete, as shown.	3561-79 A



CROSSING GATE MECHANISM
WITH CLAMP BEARING





CROSSING GATE MECHANISM WITH CLAMP BEARING

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Mechanism Complete, with clamp bearing, for 0° to 90° L.H.U.Q. Crossing Gate Mechanism, for mounting on 5" pipe. Equipped with motor without centrifugal brake or without contacts operated by hold-clear armature as shown on Plate G-534. Gear ratio 131 to 1	3561-21 GL-90
A1	as above, except for 0° to 90° R.H.U.Q. Crossing Gate Mechanism	3561-21 GR-90
A2	same as Fig. A, except for 0° to 80° L.H.U.Q. Crossing Gate Mechanism	3561-21 GL-80
A3	same as Fig. A, except for 0° to 80° R.H.U.Q. Crossing Gate Mechanism	3561-21 GR-80
A4	same as Fig. A, except for 0° to 75° L.H.U.Q. Crossing Gate Mechanism	3561-21 GL-75
A5	same as Fig. A, except for 0° to 75° R.H.U.Q. Crossing Gate Mechanism	3561-21 GR-75
C	Motor Complete, 8-10 volts. For details and order references see Plate G-534	29890-1 Gr. 12
D	Cover Complete, includes name plate and gasket	52993 Gr. 1
E	Circuit Controller Complete. For details and order references see Plate G-520	
F	First Intermediate Gear Complete. For details and order references see Plate G-528 Fig. E	29965 Gr. 1
G	Bearing Bracket Complete. For details and order references see Plate G-528 Fig. D	29833 Gr. 1
H	Case Complete, includes all parts except circuit controller, motor, brake, and bearing	29821 Gr. 8
H1	as above, except without stop Fig. 36	29821 Gr. 1
J	Sector Complete. For details and order references see Plate G-528 Fig. B	54240 Gr. 1
K	Ratchet Gear Complete. For details and order references see Plate G-526 Fig. D	30080-1 Gr. 1
L	Clamp Bearing Complete, left hand, for 5" pipe. For details and order references see Plate G-526 Fig. A	3561-155 L-5

CROSSING GATE MECHANISM WITH CLAMP BEARING

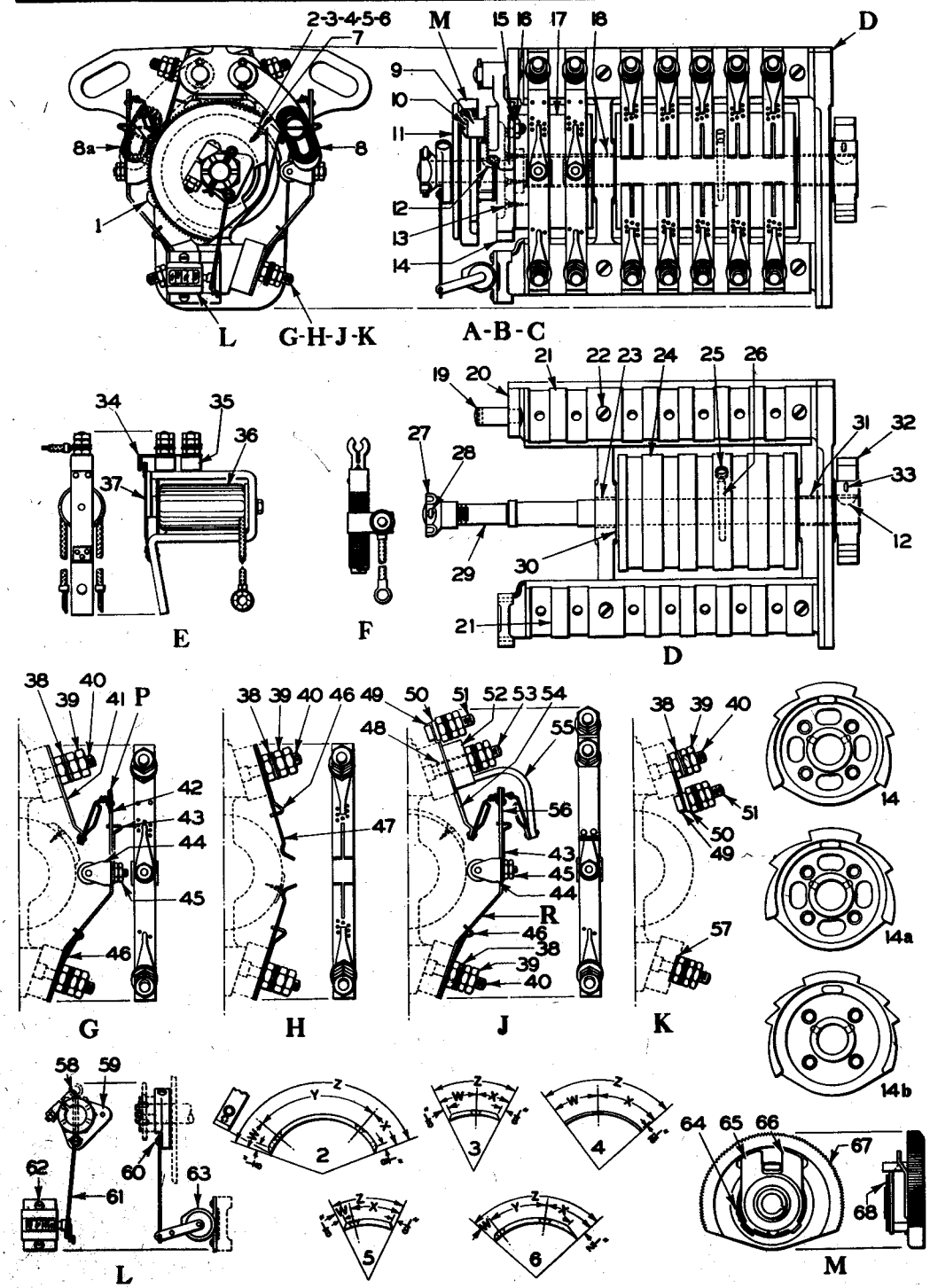
Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
L1	as above, except right hand. For details and order references see Plate G-526 Fig. B	3561-155 R-5
1	Stud, upper, hinge for door	16114
2	Dowel Screw, 5/8"-11 x 1-7/8" hex. hd., for mounting bearing bracket Fig. G.	29849
3	Stud, 1/2"-13 x 2-1/8" lg., for mounting circuit controller.	14934
4	Shield, for side door.	30520
5	Latch, for side door	42018
6	Rivet, 3/16" x 1/2" rd. hd., for fastening latch to top of side door	0204
7	Oiler Complete, as shown, includes adapter	34232-16 Gr. 1
8	Woodruff Key, for fastening sector Fig. 16 to shaft	027
9	Cotter Pin, 3/16" x 2", for fastening sector Fig. 16 to shaft	046
10	Stud, lower, hinge for door	29869
11	Rivet, 3/16" x 3/8" rd. hd., for fastening latch to bottom of side door	0203
12	Gasket, 2' 7-5/8" lg., for side door	43460
14	Name Plate, with drive screws, for mechanism.	401-237 52681-12
15	Gasket, 4' 6-1/4" lg., for cover Fig. D	43460
16	Sector, only, for operating circuit controller	29842
17	Screw, 3/8"-16 x 1-3/8" hex. hd., for mounting motor	30049
18	Partition, for case	30041
19	Washer, for gear Fig. K	30089
20	Case, only	29822
22	Bushing, for sector shaft in case Fig. 20	29835
23	Roller Bearing, for first intermediate gear Fig. F.	29998 Gr. 2
24	Stud Complete, for gear Fig. K, includes pin.	52923 Gr. 1
25	Nut, 1/2"-13 x 7/16" hex., for stud Fig. 3	0286

CROSSING GATE MECHANISM WITH CLAMP BEARING

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
26	Washer, for nut Fig. 25.	17492
28	Tap Bolt, 5/8"-11 x 1-3/4" hex. hd., for fastening clamp bearing to mechanism	0664
29	Tap Bolt, 5/8"-11 x 4" hex. hd., for fastening clamp bearing to mechanism	34675
30	Eyebolt, 1/2"-13, for use when lifting mechanism .	2102
31	Nut, 1/2"-13 x 5/16" th. hex., for eyebolt.	41895
32	Screw, 1/4"-24 x 1/2" rd. hd., for mounting shield Fig. 4	2449
33	Stud, hinge, for side door	21527
34	Screw, 1/4"-20 x 7/8" hex. hd., with hex. nut and lock washer, for fastening stop Fig. 36 to side door	29767 424 0510
35	Pin, for fastening strap Fig. 39 to side door	7567
36	Stop, for side door	52971-4
37	Side Door, only	30040-2
38	Pin, for fastening strap Fig. 39 to hasp tongue . . .	7005
39	Strap, for hasp tongue.	30804-1
40	Hasp Tongue, for door	16110
41	Conduit Adapter Complete, as shown.	3561-79



CIRCUIT CONTROLLERS

CIRCUIT CONTROLLERS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Circuit Controller Complete, 0°-90° operation, for L.H.U.Q. mechanism. This controller is for use with typical circuit 25941-12 . . . . . (Note - Typical circuit is shown inside cover Fig. D, Plate G-510)	
A1	as above, except for use with typical circuit 25941-11	
A2	same as Fig. A, except for use with typical circuit 25941-7	
A3	same as Fig. A, except for R.H.U.Q. mechanism, for use with typical circuit 25941-7.	
B	Circuit Controller Complete, 0°-80° operation, for L.H.U.Q. mechanism. This controller is for use with typical circuit 25941-7. . . . . (Note - Typical circuit is shown inside cover Fig. D, Plate G-514)	
B1	as above, except for R.H.U.Q. mechanism, and for use with typical circuit 25941-7	
C	Circuit Controller Complete, 0°-75° operation, for L.H.U.Q. mechanism. This controller is for use with typical circuit 25941-7. . . . . (Note - Typical circuit is shown inside cover Fig. D, Plate G-514)	
C1	as above, except for R.H.U.Q. mechanism, for use with typical circuit 25941-7.	
D	Frame Complete, for circuit controller.	34614 Gr. 2
E	Snubbing Relay Complete, for circuit controller . .	56790 Gr. 2
F	Snubbing Resistor Complete, for circuit controller	56850
G	Operating Contact Group Complete, as shown	39927-2 Gr. 2
H	Contact Group Complete, as shown	39927 Gr. 3
J	Contact Group Complete, as shown	39927-5 Gr. 3
K	Binding Post Group Complete, as shown	39927-10 Gr. 3
L	Counter Complete, as shown	38408 Gr. 1
M	Trip Plate Complete, as shown.	34616 Gr. 1
P	Arm Complete, for contact group Fig. G, includes 1-42, 1-43, 1-44, and 2-45.	35321-2 Gr. 2

CIRCUIT CONTROLLERS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
R	Arm Complete, for contact group Fig. J, includes 1-43, 1-44, 2-45, and 1-56.	35321-2 Gr. 1
1	Trip Finger, for tripping latch arm.	34655
2	Segments, for use with Fig. H	
3	Segments, for use with Fig. H	
4	Segments, for use with Fig. J	See table at end of this list for segments.
5	Segments, for use with Fig. G or J	
6	Segments, for use with Fig. G	
7	Wood Screw, No. 6 x 1/2" fl. hd., for fastening segments to commutator	30127
7a	as above, except No. 6 x 1/2" spl. hd., for fastening segments to commutator	44734
7b	same as Fig. 7, except No. 8-32 x 3/16" rd. hd., for segment Fig. 2h only	2553-5
8	Trip Arm, right hand, for clockwise rotation	30029-9
8a	as above, except left hand, for counter-clockwise rotation	30029-10
9	Knob, for trip arm.	29969
10	Screw, No. 14-24 x 1-3/8" rd. hd., for fastening knob to trip arm	50636
11	Plate, for trip finger	34651
12	Woodruff Key No. 3, for fastening trip plate to shaft also for fastening sector Fig. 32 to shaft	027
13	Screw, No. 8 x 1-1/2" fl. hd., for fastening latch plate to commutator.	43669
14	Latch Plate, for trip finger, for clockwise rotation, for mechanisms shown on Plates G-512 and G-514.	34676
14a	as above, except for counter-clockwise rotation . .	34678
14b	same as Fig. 14, except for clockwise rotation, used on drive-down mechanism shown on Plate G-510. .	34649-1
15	Nut, No. 14-24 sq., for screw Fig. 10	48570
16	Nut, No. 14-24 hex., for screw Fig. 10.	46989
17	Commutator, 2 way, for circuit controller	34652

CIRCUIT CONTROLLERS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
18	Bushing, for commutator	29977
19	Stud, for trip arms Figs. 8 and 8a	34657
20	Frame, only	34648
21	Contact Block, only	43273-4
22	Screw, No. 10-32 x 5/8" rd. hd., for mounting contact blocks Fig. 21	2784
23	Bushing, as shown, for shaft Fig. 29	34663
24	Commutator, five way, for circuit controller	29972
25	Set Screw, 5/16"-18 x 1/4", for locking pin Fig. 26	3018-2
26	Taper Pin, #4 x 2" lg., for fastening commutator Fig. 24 to shaft	48650-1
27	Castle Nut, for shaft Fig. 29	34659
28	Cotter Pin, 1/8" x 1-1/4", for nut Fig. 27	041
29	Shaft, only, for circuit controller	34647-1
30	Washer, for use between frame and commutator Fig. 24	35133
31	Bushing, as shown, for shaft	29850
32	Sector, for operating circuit controller	34646
33	Cotter Pin, 3/16" x 1-3/4", for fastening sector to shaft	045
34	Support Complete, with contact, for relay Fig. E	51320-51 Gr. 1
35	Insulator, for support Fig. 34	42792-3
36	Coil, for relay Fig. E	50529-41 Gr. 1
37	Armature Complete, for relay Fig. E, includes plate and pins for fastening to frame	29524-28 Gr. 1 35845-75 0677
38	Washer, for terminal posts	1225-2
39	Nut, No. 14-24, hex., for terminal posts	42839-1
40	Screw, No. 14-24 x 1-1/4" sq. hd., used as terminal post	350-1
41	Arm Complete, for contact group Fig. G, includes support, stop, and contact riveted together	35466-2 Gr. 2

CIRCUIT CONTROLLERS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
42	Contact Spring, with contact, for arm Fig. P.	35330-2 Gr. 2
43	Adjuster, for contact springs Figs. 42 and 56	29967-1
44	Holder Complete, with stud, roller and pin.	42470 Gr. 1
45	Nut, No. 8-32, hex., for stud on holder.	9188
46	Adjuster, for arm Figs. P and R, also for spring Fig. 47.	29967
47	Spring, only, for contact group Fig. H	29966
48	Bushing, for screw Fig. 53	38471-1
49	Connector, for contact groups Figs. J and K	46413-7
50	Washer, for connector Fig. 49	1225-117
51	Screw, No. 14-24 x 1" sq. hd., used as terminal post.	350
52	Block, insulating, for finger Fig. 55	38470-1
53	Screw, No. 14-24 x 1-3/4" sq. hd., used as terminal post.	350-5
54	Arm Complete, for contact group Fig. J, includes support, stop and contact riveted together	35466-2 Gr. 1
55	Arm Complete, for contact group Fig. J, includes support, stop and contact riveted together	35466-3 Gr. 1
56	Contact Spring, with contacts, for arm Fig. R. . . .	35330-2 Gr. 1
57	Washer, as shown, for contact group Fig. K	8148
58	Screw, No. 10-32 x 1-1/4" rd. hd., with hex. nuts, for fastening clamp Fig. 59 to nut Fig. 27.	3044-16 38239
59	Clamp, only, for counter.	34660
60	Screw, No. 6-32 x 3/8" rd. hd., for fastening rod Fig. 61 to clamp	2426-8
61	Rod, only, for operating counter.	34666
62	Screw, No. 4-36 x 3/8" rd. hd., for fastening counter to frame.	29107
63	Counter, only, right hand.	26674
64	Spring, for trip plate	34618
65	Plate Complete, with stud, for spring Fig. 64	34619 Gr. 1

CIRCUIT CONTROLLERS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
66	Plate, only, for trip plate	34617-1
67	Trip Plate, only.	34650-1
68	Washer, for spring.	35133

SEGMENTS

Fig. No.	Dim. W	Dim. X	Dim. Y	Dim. Z	Thickness of Segment	Drawing Reference
2	21/32"	33/64"	1-11/64"	2-11/32"	.1019"	29990-2
	25°	20°	45°	90°		
2a	55/64"	1-3/64"	1-11/64"	3-5/64"	.1019"	29990-3
	33°	40°	45°	118°		
2b	55/64"	1-19/64"	1-11/64"	3-21/64"	.1019"	29990-4
	33°	50°	45°	128°		
2c	15/32"	23/32"	2-11/32"	3-17/32"	.1019"	29990-10
	18°	27-1/2°	90°	135-1/2°		
2d	9/32"	63/64"	1-11/64"	2-7/16"	.1019"	29990-11
	11°	37-1/2°	45°	93-1/2°		
2e	25/32"	1-19/64"	2-11/32"	4-27/64"	.1019"	29990-19
	30°	50°	90°	170°		
2f	17/64"	23/32"	2-11/32"	3-21/64"	.1019"	29990-25
	10°	27-1/2°	90°	127-1/2°		
2g	3/8"	3/8"	2-11/32"	3-3/32"	.1019"	29990-54
	14-1/2°	14-1/2°	90°	119°		
2h*	15/32"	23/32"	2-11/32"	3-17/32"	.1019"	29990-57
	18°	27-1/2°	90°	135-1/2°		

* Has additional tapped hole as shown by dotted lines.

NOTE: All dimensions based on outside circumference.

CIRCUIT CONTROLLERS

Drawing references are shown for convenience in checking shipping lists and invoices

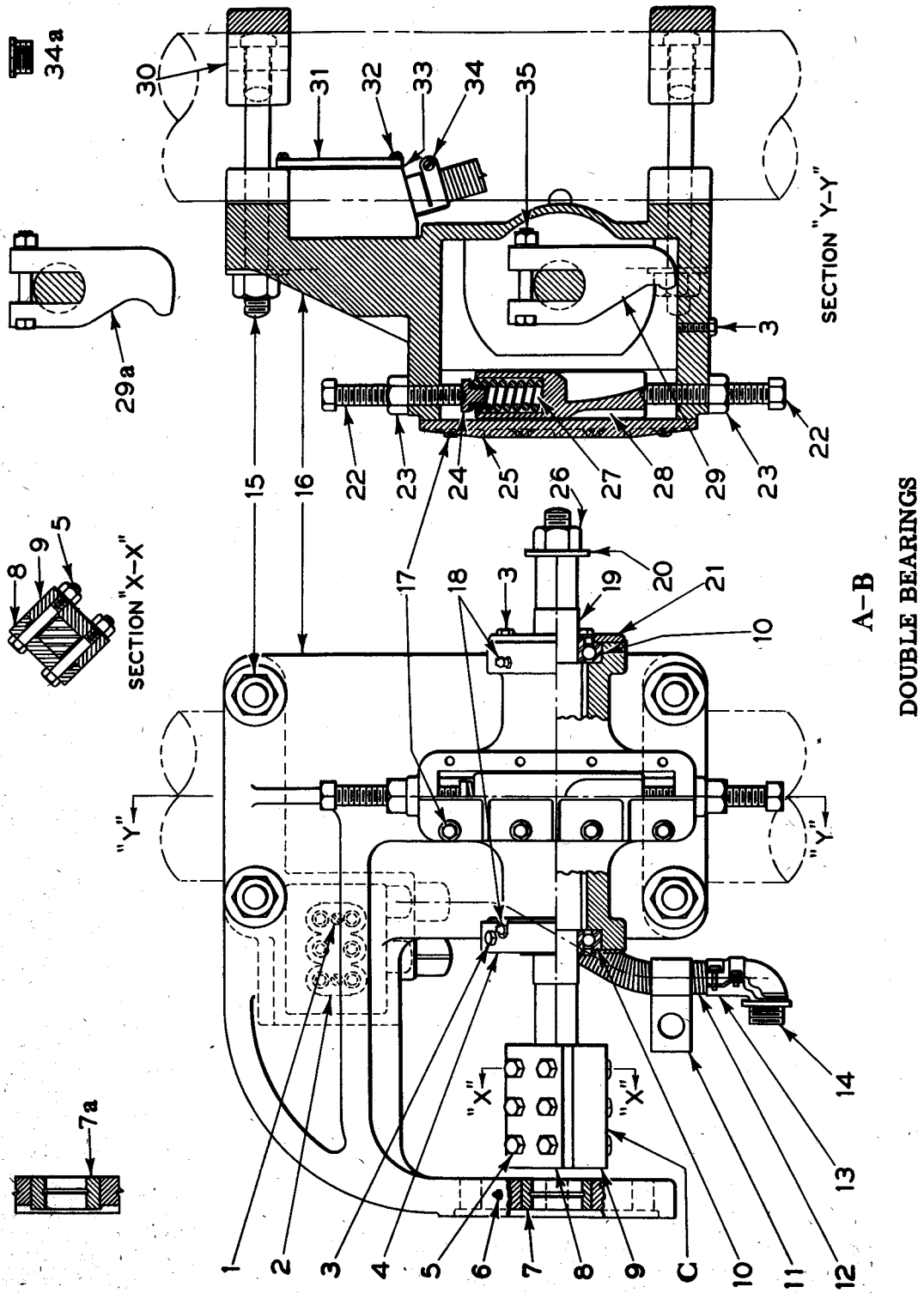
Order by plate, figure number and description

SEGMENTS (Cont'd.)

Fig. No.	Dim. W	Dim. X	Dim. Y	Dim. Z	Thickness of Segments	Drawing Reference
3	21/32" / 25°	1-3/64" / 40°		1-11/16" / 65°	.1019"	29990-6
3a	19/32" / 22-1/2°	19/32" / 22-1/2°		1-11/64" / 45°	.1019"	29990-7
3b	21/64" / 12-1/2°	31/32" / 37-1/2°		1-19/64" / 50°	.1019"	29990-9
3c	15/32" / 18°	1-1/4" / 48°		1-23/32" / 66°	.1019"	29990-12
3d	21/32" / 25°	23/32" / 27-1/2°		1-3/8" / 52-1/2°	.1019"	29990-13
3e	25/64" / 15°	19/32" / 23°		63/64" / 38°	.1019"	29990-14
3f	7/8" / 33-1/2°	7/8" / 33-1/2°		1-3/4" / 67°	.1019"	29990-20
3g	55/64" / 33°	1-19/64" / 50°		2-5/32" / 83°	.1019"	29990-23
3h	21/32" / 25°	29/32" / 35°		1-9/16" / 60°	.1019"	29990-59
4	7/8" / 35°	1-1/4" / 49°		2-1/8" / 84°	1/16"	29990-62
5	21/64" / 12-1/2°	1" / 37-1/2°		1-21/64" / 50°	1/8"	29990-15
5a	21/64" / 12-1/2°	1-1/8" / 42-1/2°		1-29/64" / 55°	1/8"	29990-16
5b	15/32" / 18°	1-17/64" / 48°		1-3/4" / 66°	1/8"	29990-17
6	17/64" / 10°	1-1/16" / 40°	1-3/16" / 45°	2-33/64" / 95°	1/8"	29990-18

NOTE: All dimensions based on outside circumference.

MEMORANDUM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A-B
DOUBLE BEARINGS
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SECTION "X-X"
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DOUBLE BEARINGS

Drawing references are shown for convenience in checking shipping lists and invoices

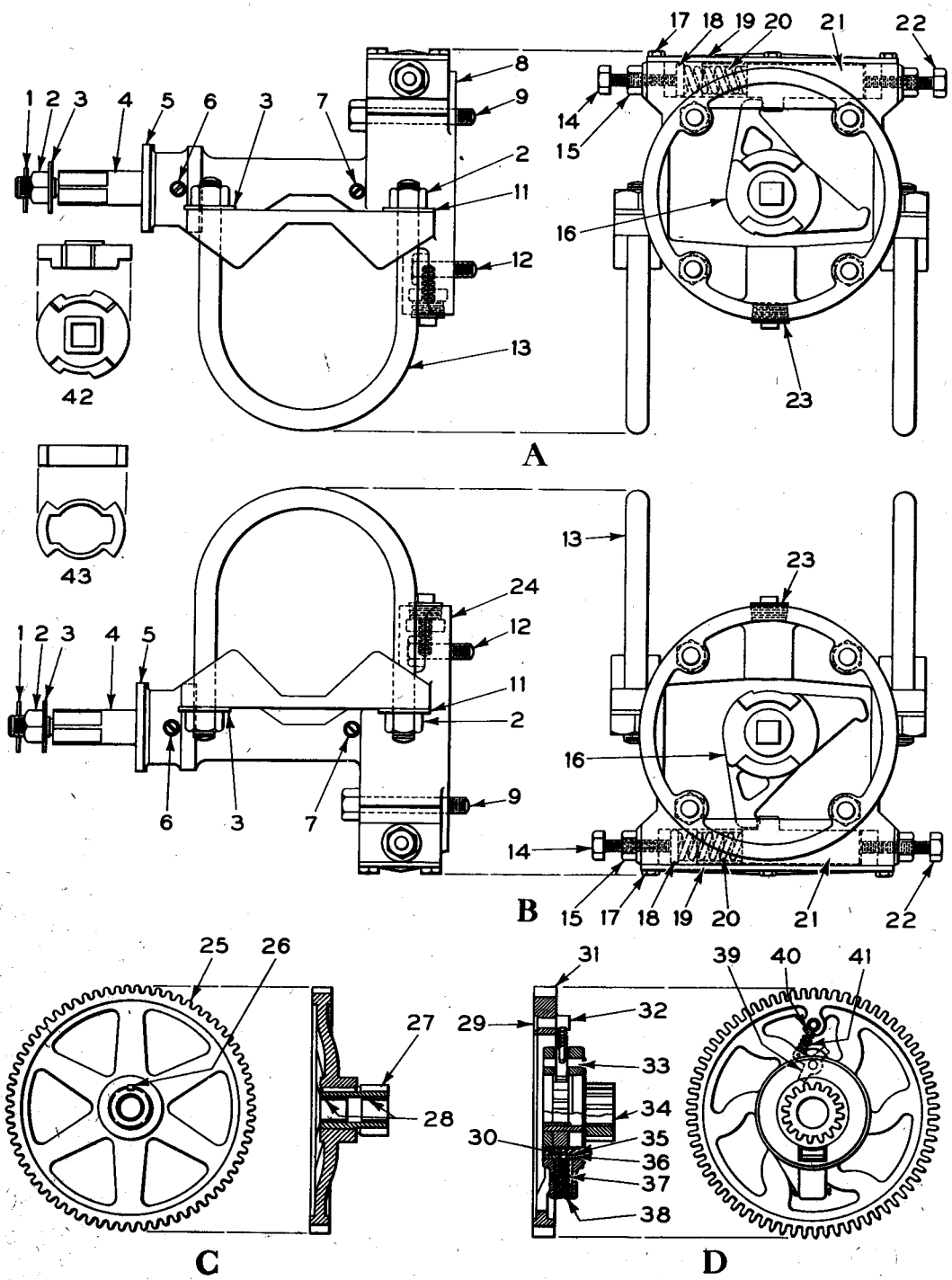
Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Double Bearing Complete, for use with mechanisms shown on Plate G-510 Figs. A and B	3562-40 AX
B	Double Bearing Complete, for use with mechanism shown on Plate G-512 Fig. A	3562-40 A
C	Coupling Complete, as shown	3562-179
1	Screw, No. 10-32 x 1/2" rd. hd., for mounting terminal strip Fig. 2	
2	Terminal Strip, 3 way	2506-13 B
3	Cap Screw, 1/4"-20 x 5/8" hex. hd., for ball bearing retainer cup Fig. 4, also for plate Fig. 21	
4	Retainer Cup, for ball bearing Fig. 10	3562-24 A
5	Cap Screw, 3/8"-16 x 2-1/2" hex. hd., with hex. nut and lock washer, for coupling Fig. C	
6	Grease Fitting, for bushing Fig. 7	90501
7	Bushing, for sector shaft, for use in bearing Fig. L Plate G-512	3562-10
7a	as above, except for sector shaft, for use in bearing Fig. L Plate G-510	3563-10
8	Shaft Coupling Cap Complete, with pin	3562-178
9	Shaft Coupling Sleeve Complete, with pin	3562-177
10	Ball Bearing, for shaft Fig. 19	90304
11	Clamp, for conduit Fig. 12	3562-120
12	Flexible Metallic Conduit, 3/4" x 4' 6" lg	
13	Squeeze Connector, 3/4"-90°	
14	Female Reducer, 1" to 3/4"	
15	Bolt, 3/4"-10 x 8-3/4" sq. hd., with hex. nut and plain washer, for mounting clamp Fig. 30	
16	Bracket, only, for bearings Figs. A and B	3562-17
17	Cap Screw, 1/4"-20 x 3/4" hex. hd., for cover Fig. 25	
18	Oil Cup, for ball bearings Fig. 10	90502
19	Shaft, only, for bearings Figs. A and B	3562-18

DOUBLE BEARINGS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
20	Plain Washer, 3/4", for nut Fig. 26.	
21	Retainer Plate, for ball bearing Fig. 10.	3562-24
22	Adjusting Screw, 5/8"-11, hex. hd., for bearings Figs. A and B	3562-7
23	Nut, 5/8"-11 hex., for adjusting screws Fig. 22. . .	
24	Cap, for spring Fig. 27.	3562-30
25	Cover, for stop plunger.	3562-36
26	Nut, 3/4"-10 hex., for shaft.	
27	Buffer Spring	3562-22
28	Stop Buffer Plunger	3562-26
29	Stop Crank, for 90° operation.	3562-29 A
29a	as above, except for 75° to 80° operation.	3562-29
30	Mounting Clamp, for 5" pipe	3561-92
31	Cover, for junction box.	3562-118
32	Screw, No. 8-32 x 7/8" rd. hd., with lock washer, for cover Fig. 31.	
33	Gasket, for junction box cover	3562-119
34	Squeeze Connector, 3/4" straight	
34a	Chase Nipple, 3/4".	
35	Cap Screw, 3/8"-24 x 2-3/4" hex. hd., heat treated, with hex. nut and lock washer, for stop crank Fig. 29	

MEMORANDUM



DETAIL PARTS FOR MECHANISMS

DETAIL PARTS FOR MECHANISMS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Clamp Bearing Complete, left hand, for 5" pipe, includes drivers Figs. 42 and 43.	3561-155 L-5
A1	as above, except for 4" pipe	3561-155 L-4
A2	same as Fig. A, except for 6" pipe.	3561-155 L-6
B	Clamp Bearing Complete, right hand, for 5" pipe, includes drivers Figs. 42 and 43.	3561-155 R-5
B1	as above, except for 4" pipe	3561-155 R-4
B2	same as Fig. B, except for 6" pipe.	3561-155 R-6
C	Second Intermediate Gear Complete, as shown, 72 teeth, with pinion having 10 teeth, for mechanism shown on Plate G-510.	29964-1 Gr. 2
D	Ratchet Gear Complete, as shown, for mechanisms shown on Plates G-512 and G-514.	30080-1 Gr. 1
1	Cotter Pin, for end of shaft	044
2	Nut, 3/4"-10 hex., for end of shaft, also for "U" bolt.	0272
3	Washer, for nut Fig. 2, also for "U" bolt.	073
4	Shaft, only, for bearings	30272
5	Cap, for bearings.	35129
6	Oiler, as shown, for shaft	39886
7	Oiler, as shown, for shaft	44793
8	Bearing, only, for bearing Fig. A	34670
9	Tap Bolt, 5/8"-11 x 4" hex. hd., for fastening bearing to mechanisms.	34675
11	Washer, for "U" bolt.	35660
12	Tap Bolt, 5/8"-11 x 1-3/4" hex. hd., for fastening bearing to mechanism.	0664
13	"U" bolt, for 5" pipe	29953
13a	as above, except for 4" pipe	29952
13b	same as Fig. 13, except for 6" pipe	30017
14	Tap Bolt, 5/8"-11 x 2-1/4" hex. hd., for buffer stop	0884
15	Nut, 5/8"-11 hex., for bolts Figs. 14 and 22	1318

DETAIL PARTS FOR MECHANISMS

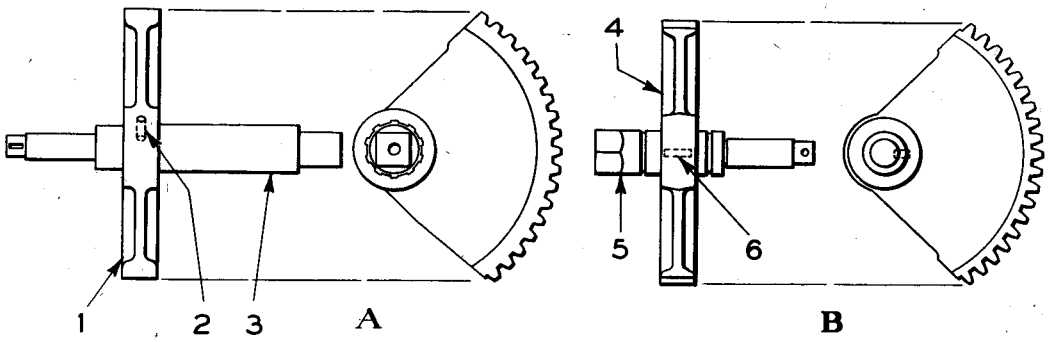
Drawing references are shown for convenience in checking shipping lists and invoices

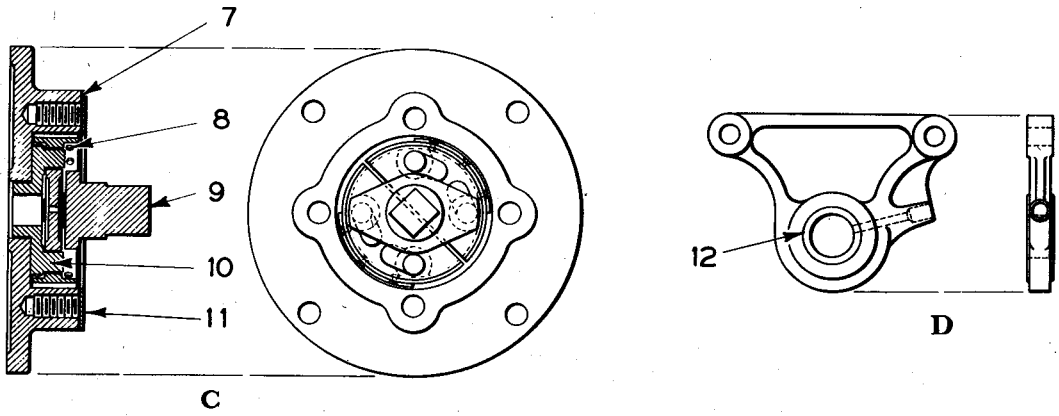
Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
16	Driver, only, for shaft	34672
17	Tap Bolt, 5/16"-18 x 3/4" hex. hd., for fastening plate Fig. 19 to bearing	0844
18	Filler, for spring Fig. 20	34674
19	Plate, for bearings	34673
20	Spring, for plunger Fig. 21	30982
21	Plunger, for buffer stop	34671
22	Tap Bolt, 5/8"-11 x 2-1/2" hex. hd., for plunger Fig. 21	0719
23	Pipe Plug, for bearings	0888
24	Bearing, only, for bearing Fig. B	34670-1
25	Gear, only, 72 teeth, for gear Fig. C	29831-2
26	Key, 3/16" x 3/16" x 1-1/4", for fastening pinion to gear	1153
27	Pinion, only, 10 teeth, for gear Fig. C	29840-1
28	Bushing, for gear, two required	6714-232
29	Collar, for stud Fig. 32	30083
30	Stud, for spring Fig. 37	441-227
31	Gear, only, for ratchet gear Fig. D	30081
32	Stud, for spring Fig. 41	30084
33	Pin, 3/8" x 1-3/8", for fastening pawl Fig. 39 to gear	30521
34	Pinion Complete, for gear Fig. D, includes ratchet wheel, bushings, key and washers	30079
35	Brake Shoe, for gear Fig. D	30086-1
36	Backing Plate, for brake shoe	30085-1
37	Spring, for brake shoe	30090
38	Screw, 5/8"-11 x 1/2" headless, for spring Fig. 37	35966
39	Pawl Complete, for ratchet gear Fig. D, includes rod for spring Fig. 41	42438
40	Washer, for spring Fig. 41	5046-1

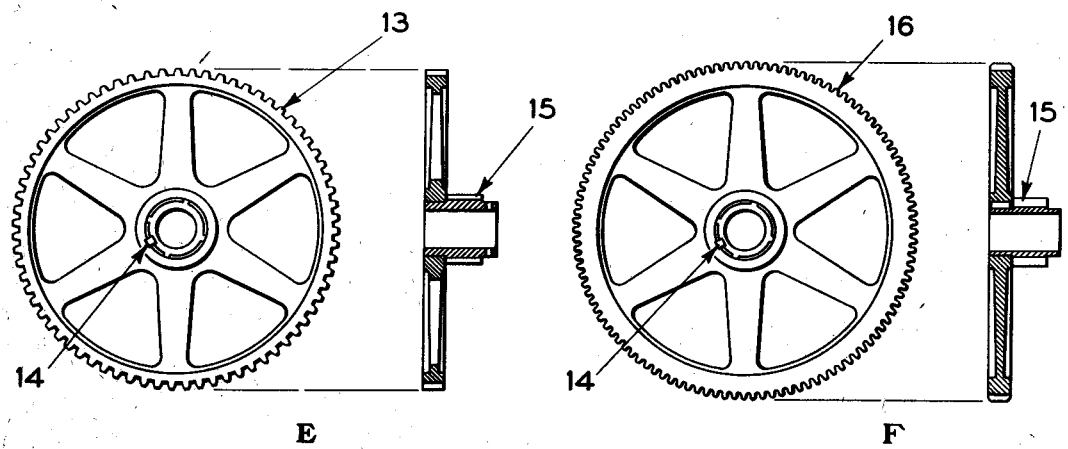
DETAIL PARTS FOR MECHANISMS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
41	Spring, for pawl Fig. 39	30875
42	Machine Driver, as shown	34627
43	Intermediate Driver, as shown	29911





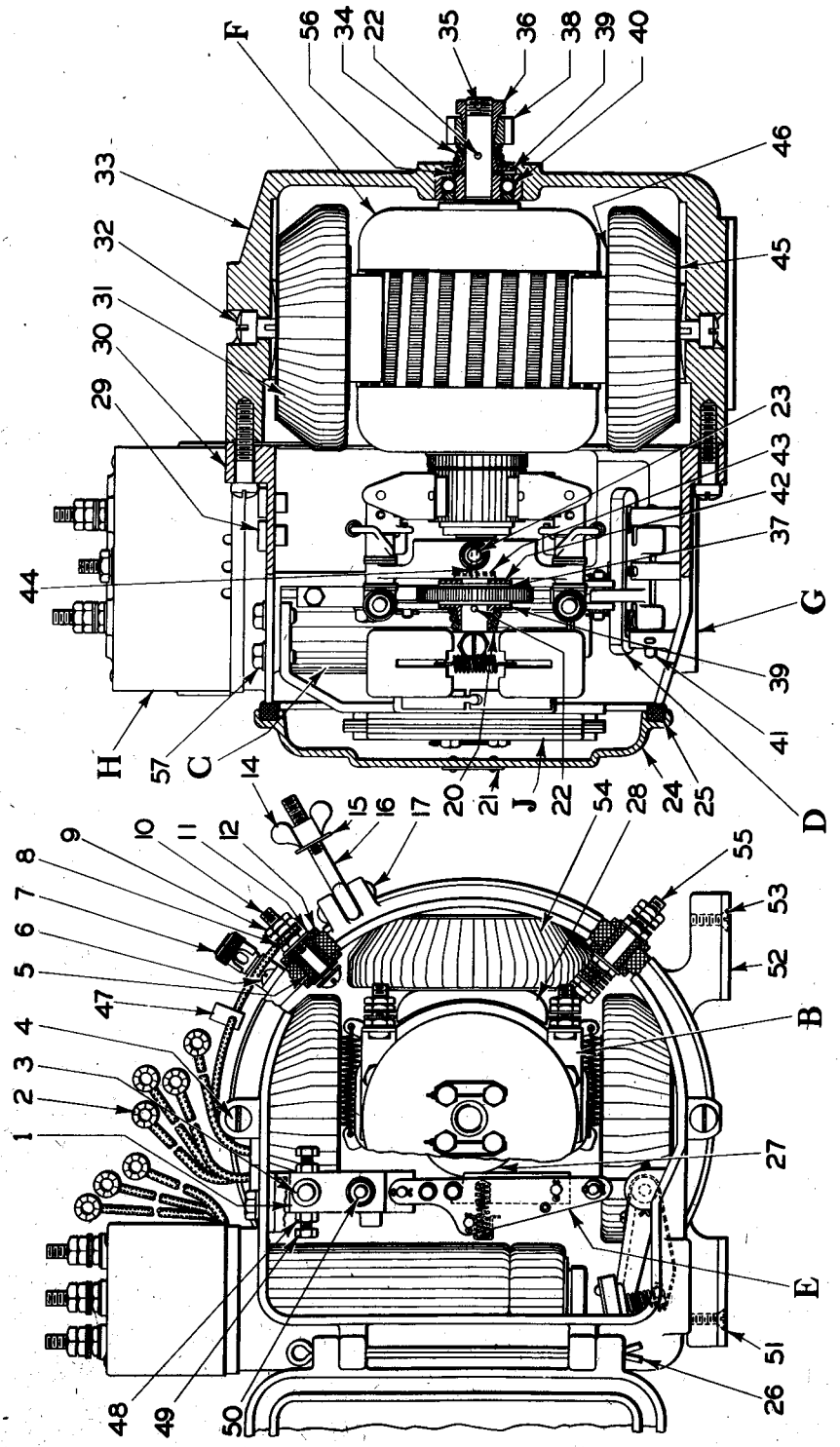


DETAIL PARTS FOR MECHANISMS

DETAIL PARTS FOR MECHANISMS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Sector Complete, with shaft, for mechanisms shown on Plate G-510.	54240-2 Gr. 1
B	Sector Complete, with shaft, for mechanisms shown on Plates G-512 and G-514.	54240 Gr. 1
C	Brake Complete, as shown, for mechanism shown on Plate G-512.	3562-122
D	Bearing Bracket Complete, with bushing.	29833 Gr. 1
E	First Intermediate Gear Complete, 73 teeth, with pinion having 14 teeth, for mechanisms shown on Plates G-512 and G-514.	29965 Gr. 1
F	First Intermediate Gear Complete, 116 teeth, with pinion having 14 teeth, for mechanism shown on Plate G-510.	29965-1 Gr. 1
1	Sector, only, for sector Fig. A	29830-3
2	Pin, for fastening sector Fig. 1 to shaft Fig. 3. . . .	500
3	Shaft, only, for sector Fig. A	29839-3
4	Sector, only, for sector Fig. B	29830
5	Shaft, only, for sector Fig. B	29839
6	Woodruff Key, for fastening sector Fig. 4 to shaft Fig. 5.	028
7	Case, only, for brake Fig. C.	E2550A
8	Shoe Complete, for brake Fig. C, includes lining and rivets.	E2550B Gr. 1
9	Driver, only, for brake Fig. C	E2550F
10	Driver, only, for brake Fig. C	E2550E
11	Gasket, for brake Fig. C	3562-38
12	Bushing, for bearing bracket	29836
13	Gear, only, 73 teeth, for gear Fig. E	29832
14	Key, 3/16" x 3/16" x 1/2", for fastening gears Figs. 13 and 16 to pinions	29848
15	Pinion, only, 14 teeth, for gears Figs. E and F. . . .	29841
16	Gear, only, 116 teeth, for gear Fig. F	29832-2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MOTOR

MOTOR

NOTE:- This motor is equipped with centrifugal brake and has contacts operated by hold-clear armature.

For gates that are power-operated from clear to 45°.

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Motor Complete, 8-10 volts, direct-current, clockwise rotation, with centrifugal brake, and has contacts operated by hold-clear armature. Has 926 ohms holding coils. For mechanism shown on Plate G-510 Fig. B.	29890-5 Gr. 1
A1	as above, except with 560 ohms holding coils	29890-5 Gr. 3
B	Brush Holder Complete. For details and order references see Plate G-536 Fig. B.	37930-1 Gr. 7
C	Hold-Clear Magnet Complete. For details and order references see Plate G-538 Fig. C and C1.	
D	Hold-Clear Armature Complete. For details and order references see Plate G-536 Fig. H2.	49021 Gr. 8
E	Link Complete. For details and order references see Plate G-536 Fig. F.	32666-2 Gr. 1
F	Armature Complete, for motor, includes coil and commutator	29893-6 Gr. 1
G	Bearing Bracket, with cover, gasket, stud for brush holder bracket, hanger block for link, eyebolt, wing nut, pins, nuts and washers. (1-14, 1-15, 1-16, 1-17, 1-23, 1-24, 1-25, 1-26, 1-30, 1-41, and 1-44)	39057-1 Gr. 5
H	Contactor Complete. For details and order references see Plate G-536 Fig. C	57440 Gr. 1
J	Centrifugal Brake Complete. For details and order references see Plate G-538 Fig. D.	56795 Gr. 1
1	Hanger Block, for link Fig. E	32886-1
2	Eyelet, for 1/4" and 5/16" posts and No. 14 wire, with clamping ears for 5/16" dia. insulation.	17819-4
3	Stud, for fastening hanger block to bearing bracket .	441-450
4	Cap Screw, 5/16"-18 x 1-1/4", for fastening bearing bracket to motor frame	50499
5	Bushing, fibre, for binding posts	7350-196
6	Screw, No. 10-32 x 3/8" rd. hd., for mounting oiler	3044-4
7	Oiler Complete, for motor, includes bracket and tube	48674-1 Gr. 2

MOTOR

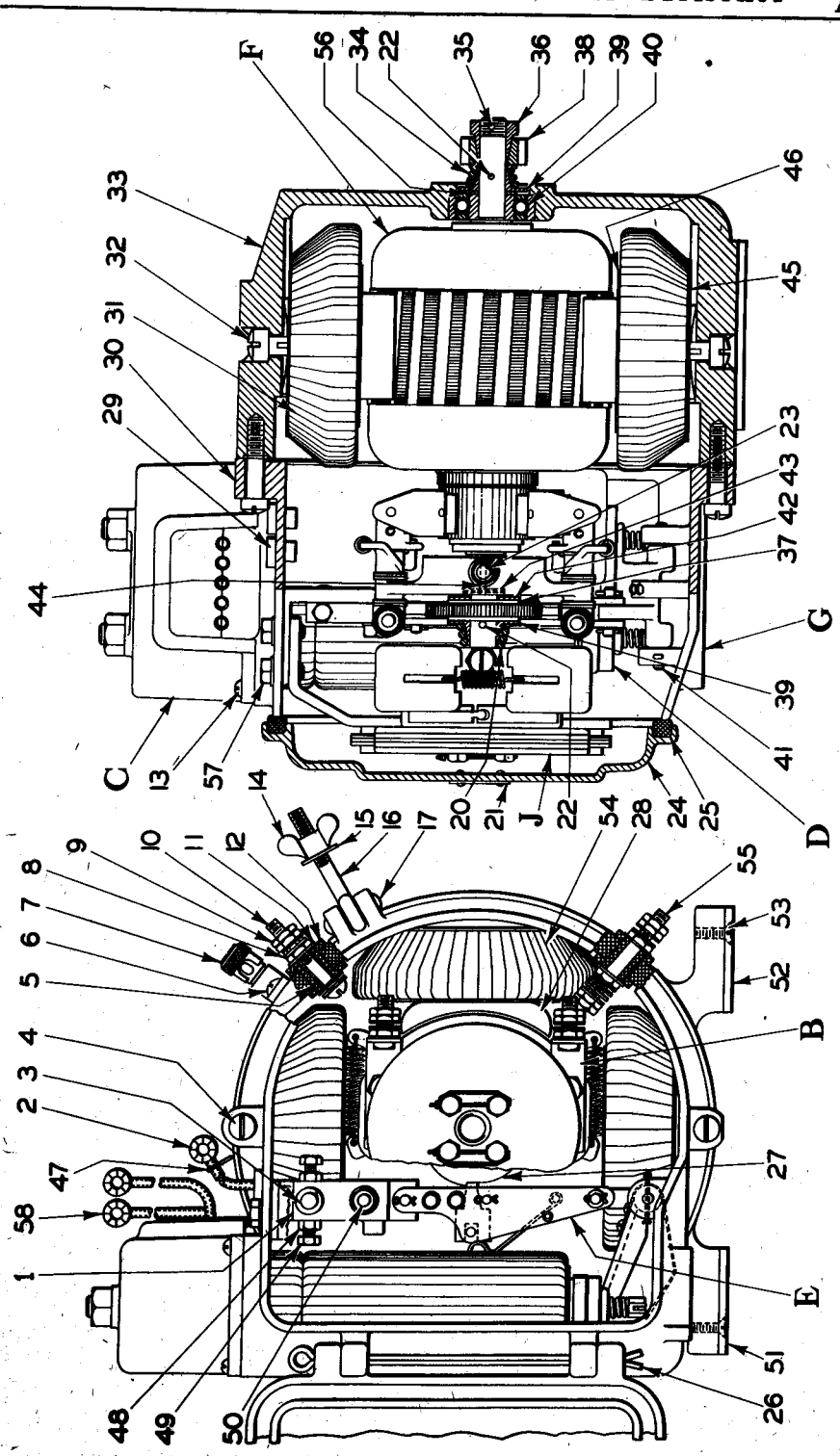
Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
8	Washer, for binding posts	1225-2
9	Nut, No. 14-24 x 1/8" th. hex., for binding posts, also for mounting brush holder	46989-2
10	Screw, No. 14-24 x 1-3/4" rd. hd., used as binding post in position shown	360-2
11	Washer, for binding post	14682-2
12	Washer, fibre, for binding posts	493-187
14	Wing Nut, for eyebolt	29995
15	Washer, for eyebolt	22890
16	Eyebolt, for cover	29963
17	Pin, for fastening eyebolt to frame	7568
20	Spring, for friction cone Fig. 39	30506-2
21	Name Plate, with escutcheon pins for motor	401-6 0738
22	Pin, for armature shaft	16448
23	Stud, for mounting brush holder	50613-1
24	Cover, only, for case	32662-2
25	Gasket, 2'-8" lg., for cover	47436
26	Cotter Pin, 3/16" x 6-1/4", hinge for cover	35622
27	Hold-Clear Disc, for retaining mechanism	43128-5
28	Pole Piece, for motor	29864
29	Bushing, fibre, for lead wires	27371
30	Bearing Bracket, only, for motor	32661-4
31	Field Coil Complete, for motor, single winding, two required	29999-1 Gr. 13
32	Screw, 3/8"-16 x 1" fil. hd., for mounting pole pieces	19866
33	Frame, only, for motor	29825-2
34	Spring, for pinion end	30506-3
35	Taper Pin, for fastening cone Fig. 36 to pinion end of shaft	18281-1
36	Cone, for pinion	30077-2

MOTOR

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
37	Washer, fibre, for hold-clear disc Fig. 27	30078
38	Pinion, for shaft	30075-1
39	Cone, for motor pinion and hold-clear disc.	30077
40	Ball Bearing, for shaft, two required.	47790
41	Shaft, for armature support.	32758
42	Cone, for commutator end of shaft	30668
43	Shim Washer, for use between ball bearing and cone	34254
44	Pin, for fastening stud Fig. 23 to bearing bracket	4793-1
45	Washer, for field coils, for use in position shown .	493-65
46	Washer, for field coils, for use in position shown .	493-64
47	Tag, for marking wires. Specify marking required	44983-24
48	Nut, No. 10-32 hex., for screw Fig. 49.	577-8
49	Screw, No. 10-32 x 5/8" hex. hd., for fastening hanger block to stud Fig. 3	13006-16
50	Stud, 1/4"-28, with hex. nut and lock washer, for mounting hanger block	9065-6 1472-6 0510-1
51	Shim, left hand, for use under motor foot.	53879-10
52	Shim, right hand, for use under motor foot.	53879-11
53	Screw, No. 10-32 x 1/2" fl. hd., for fastening shims to motor feet.	6727-8
54	Field Coil Complete, for motor, double winding, two required.	29999-7 Gr. 1
55	Stud, No. 14-24 x 2-1/2", used as binding post	391-2
56	Washer, for use between cone Fig. 39 and ball bearing	626-93
57	Screw, 1/4"-28 x 5/8" hex. hd., with lock washer, for mounting brake unit Fig. J	29757-20 0510-1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MOTOR

MOTOR

NOTE:- This motor is equipped with centrifugal brake but without contacts operated by hold-clear armature.

For gates that are power-operated from clear to 45°.

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Motor Complete, 8-10 volts, direct-current, clockwise rotation, with centrifugal brake but without contacts operated by hold-clear armature. For mechanisms shown on Plate G-510 Fig. A	29890-4 Gr. 1
B	Brush Holder Complete. For details and order references see Plate G-536 Fig. B	37930-1 Gr. 7
C	Hold-Clear Magnet Complete. For details and order references see Plate G-538 Fig. B	49025-2 Gr. 18
D	Hold-Clear Armature Complete. For details and order references see Plate G-536 Fig. H1	49021 Gr. 7
E	Link Complete. For details and order references see Plate G-536 Fig. G	32666-1 Gr. 2
F	Armature Complete, for motor, includes coil and commutator	29893-6 Gr. 1
G	Bearing Bracket, with cover, gasket, stud for brush holder bracket, hanger block for link, eyebolt, wing nut, pins, nuts and washers. (1-14, 1-15, 1-16, 1-17, 1-23, 1-24, 1-25, 1-26, 1-30, 1-41, and 1-44).. . . .	39057-1 Gr. 5
J	Centrifugal Brake Complete. For details and order references see Plate G-538 Fig. D	56795 Gr. 1
1	Hanger Block, for link Fig. E.	32686-1
2	Eyelet, for 1/4" and 5/16" posts and No. 14 wire, with clamping ears for 5/16" dia. insulation.	17819-4
3	Stud, for fastening hanger block to bearing bracket	441-450
4	Cap Screw, 5/16"-18 x 1-1/4", for fastening bearing bracket to motor frame.	50499
5	Bushing, fibre, for binding posts.	7350-196
6	Screw, No. 10-32 x 3/8" rd. hd., for mounting oiler	3044-4
7	Oiler Complete, for motor, includes bracket and tube.	48674-1 Gr. 2
8	Washer, for binding posts	1225-2

MOTOR

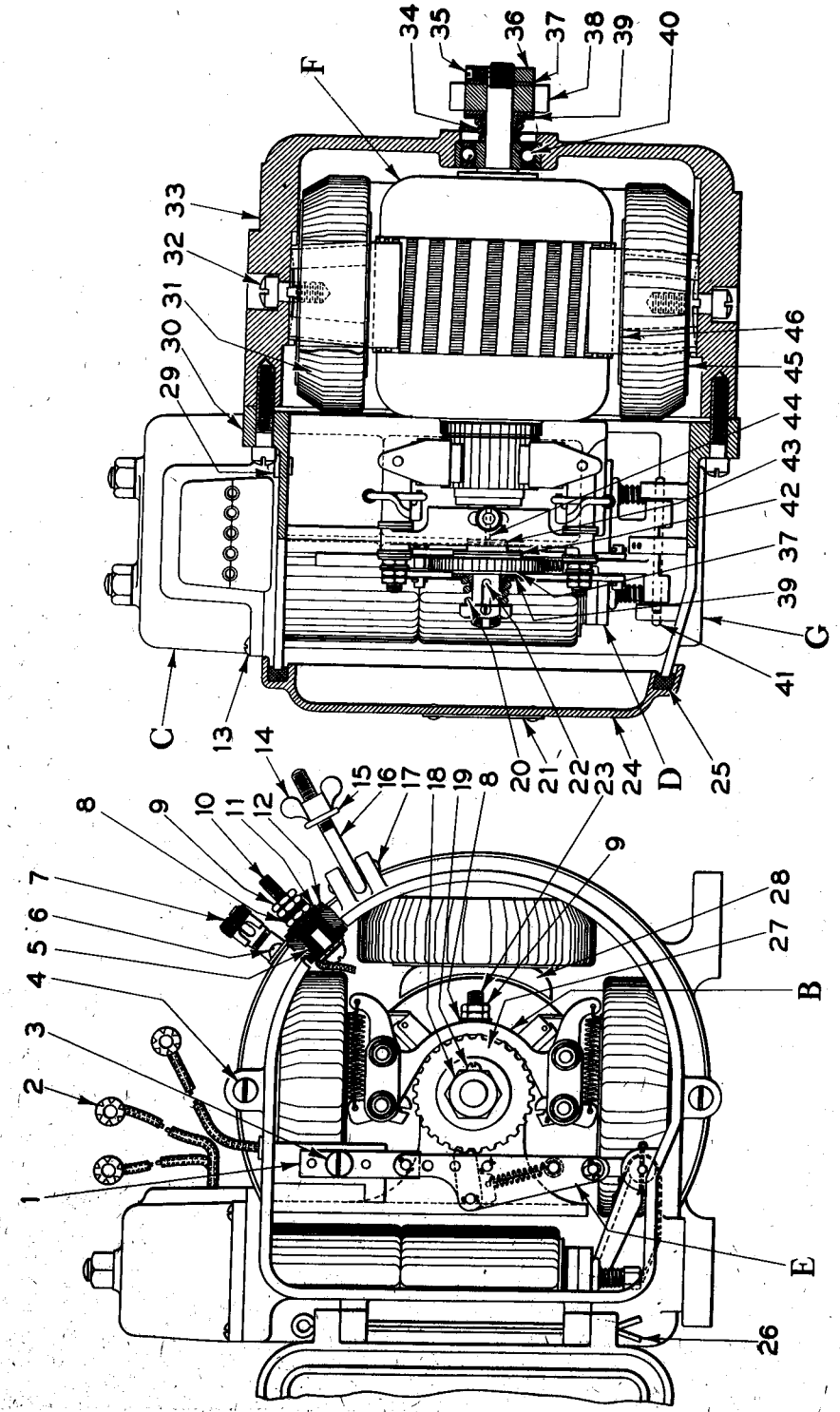
Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
9	Nut, No. 14-24 x 1/8" th. hex., for binding posts, also for mounting brush holder	46989-2
10	Screw, No. 14-24 x 1-3/4" rd. hd., used as binding post in position shown	360-2
11	Washer, for binding post	14682-2
12	Washer, fibre, for binding posts	493-187
13	Screw, No. 8-32 x 1-1/2" rd. hd., for mounting hold-clear magnet	2430
14	Wing Nut, for eyebolt	29995
15	Washer, for eyebolt	22890
16	Eyebolt, for cover	29963
17	Pin, for fastening eyebolt to frame	7568
20	Spring, for friction cone Fig. 39	30506-2
21	Name Plate, with escutcheon pins for motor	401-6 0738
22	Pin, for armature shaft	16448
23	Stud, for mounting brush holder	50613-1
24	Cover, only, for case	32662-2
25	Gasket, 2'-8" lg., for cover	47436
26	Cotter Pin, 3/16" x 6-1/4", hinge for cover	35622
27	Hold-Clear Disc, for retaining mechanism	43128-3
28	Pole Piece, for motor	29864
29	Bushing, fibre, for lead wires	27371
30	Bearing Bracket, only, for motor	32661-4
31	Field Coil Complete, for motor, single winding, two required	29999-1 Gr. 13
32	Screw, 3/8"-16 x 1" fil. hd., for mounting pole pieces	19866
33	Frame, only, for motor	29825-2
34	Spring, for pinion end	30506-1
35	Taper Pin, for fastening cone Fig. 36 to pinion end of shaft	18281-1

MOTOR

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
36	Cone, for pinion.	30077-2
37	Washer, fibre, for hold-clear disc Fig. 27	30078
38	Pinion, for shaft	30075-1
39	Cone, for motor pinion and hold-clear disc.	30077
40	Ball Bearing, for shaft, two required.	47790
41	Shaft, for armature support.	32758
42	Cone, for commutator end of shaft	30668
43	Shim Washer, for use between ball bearing and cone	34254
44	Pin, for fastening stud Fig. 23 to bearing bracket .	4793-1
45	Washer, for field coils, for use in position shown .	493-65
46	Washer, for field coils, for use in position shown .	493-64
47	Tag, for marking wires. Specify marking required	44983-24
48	Nut, No. 10-32 hex., for screw Fig. 49.	577-8
49	Screw, No. 10-32 x 5/8" hex. hd., for fastening hanger block to stud Fig. 3	13006-16
50	Stud, 1/4"-28, with hex. nut and lock washer, for mounting hanger block	9065-6 1472-6 0510-1
51	Shim, left hand, for use under motor foot.	53879-10
52	Shim, right hand, for use under motor foot.	53879-11
53	Screw, No. 10-32 x 1/2" fl. hd., for fastening shims to motor feet.	6727-8
54	Field Coil Complete, for motor; double winding, two required.	29999-7 Gr. 1
55	Stud, No. 14-24 x 2-1/2", used as binding post . . .	391-2
56	Washer, for use between cone Fig. 39 and ball bearing	626-93
57	Screw, 1/4"-28 x 5/8" hex. hd., with lock washer, for mounting brake unit Fig. J	29757-20 0510-1
58	Eyelet, for 1/4" and 5/16" posts and No. 14 wire, has clamping ears for 3/16" dia. insulation	17819-3


34 35 36 37 38 39 40
F
33 32 31 30 29
46 45 44 43 42 37 39
G
41
C
13 14
20 21 22 23 24
D
25
A
MOTOR
8 9 10 11 12 15 16 17 18 19 8
9
7 6 5 4 3 2 1
27 28
B
E
26

MOTOR

NOTE:- This motor is not equipped with centrifugal brake or with contacts operated by hold-clear armature.

For gates that are operated by gravity from clear to 0.

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Motor Complete, 8-10 volts, direct-current, clockwise or counter-clockwise rotation. For mechanisms shown on Plates G-512 and G-514	29890-1 Gr. 12
B	Brush Holder Complete. For details and order references see Plate G-536 Fig. A	37930-1 Gr. 5
C	Hold-Clear Magnet Complete. For details and order references see Plate G-538 Fig. A	49025-2 Gr. 15
D	Hold-Clear Armature Complete. For details and order references see Plate G-536 Fig. H	49021 Gr. 5
E	Link Complete. For details and order references see Plate G-536 Fig. D or E	32666
F	Armature Complete, for motor, includes coil and commutator	29893-1 Gr. 4
G	Bearing Bracket, with cover, gasket, stud for brush holder bracket, hanger block for link, eyebolt, wing nut, pins, nuts and washers. (1-14, 1-15, 1-16, 1-17, 1-23, 1-24, 1-25, 1-26, 1-30, 1-41, and 1-44). . . .	39057-1 Gr. 1
1	Hanger Block, for link Fig. E.	32686
2	Eyelet, for 1/4" post, takes No. 14, 16 or 18 wire .	41858
3	Screw, No. 14-24 x 1/2" fl. hd., for fastening hanger block to bearing bracket	5263-1
4	Cap Screw, 5/16"-18 x 1-1/4", for fastening bearing bracket to motor frame.	50499
5	Bushing, fibre, for binding posts.	7350-196
6	Screw, No. 10-32 x 3/8" rd. hd., for mounting oiler	3044-4
7	Oiler Complete, for motor, includes bracket and tube.	48674-1 Gr. 2
8	Washer, for binding posts	1225-2
9	Nut, No. 14-24 x 1/8" th. hex., for binding posts, also for mounting brush holder.	46989-2
10	Screw, No. 14-24 x 1-3/4" rd. hd., used as binding post.	360-2

MOTOR

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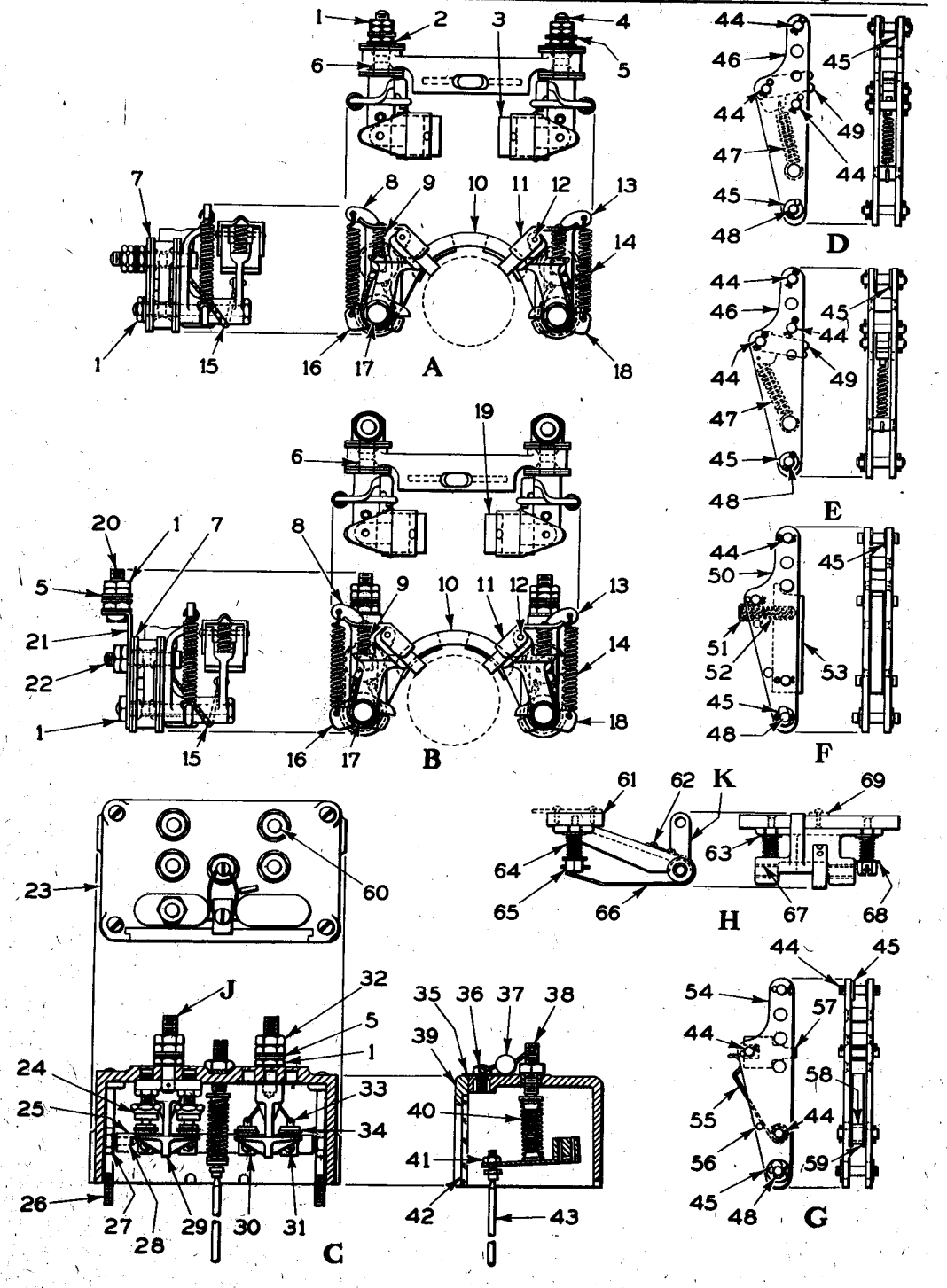
Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
11	Washer, for binding posts	14682-2
12	Washer, fibre, for binding posts	493-187
13	Screw, No. 8-32 x 1-1/2" rd. hd., for mounting hold-clear magnet	2430
14	Wing Nut, for eyebolt	29995
15	Washer, for eyebolt	22890
16	Eyebolt, for cover	29963
17	Pin, for fastening eyebolt to frame	7568
18	Nut, 1/2"-24 x 1/4" th. hex., for commutator end of shaft	30032
19	Screw, No. 6-32 x 3/8" rd. hd., for locking nut Fig. 18 to shaft	2552
20	Spring, for friction cone Fig. 39	30506-2
21	Name Plate, with escutcheon pins, for motor	401-6 0738
22	Pin, for armature shaft	16448
23	Stud, for mounting brush holder	50613-1
24	Cover, only, for case	32662
25	Gasket, 2'-8" lg., for cover	47436
26	Cotter Pin, 3/16" x 6-1/4", hinge for cover	35622
27	Hold-Clear Disc, for retaining mechanism	32685
28	Pole Piece, for motor	29864
29	Bushing, fibre, for lead wires	27371
30	Bearing Bracket, only, for motor	32661
31	Field Coil Complete, for motor, four required	29999-1 Gr. 1
32	Screw, 3/8"-16 x 1" fil. hd., for mounting pole pieces	19866
33	Frame, only, for motor	29825
34	Spring, for pinion end	30506-3
35	Screw, No. 10-32 x 1/4" dog pt., for locking collar Fig. 36 to shaft	3018-28

MOTOR

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
36	Collar, for end of shaft	30650-2
37	Washer, fibre, for hold-clear disc Fig. 27 and pinion	30078
38	Pinion, for shaft	30075
39	Cone, for motor pinion and hold-clear disc.	30077
40	Ball Bearing, for shaft, two required.	47790
41	Shaft, for armature support.	32758
42	Cone, for commutator end of shaft	30668
43	Shim Washer, for use between ball bearing and cone	34254
44	Pin, for fastening stud Fig. 23 to bearing bracket .	4793-1
45	Washer, for field coils, for use in position shown .	493-65
46	Washer, for field coils, for use in position shown .	493-64



DETAIL PARTS FOR MOTORS

DETAIL PARTS FOR MOTORS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Brush Holder Complete, for motor as shown on Plate G-534	37930-1 Gr. 5
B	Brush Holder Complete, for motors as shown on Plates G-530 and G-532	37930-1 Gr. 7
C	Contactor Complete, for motor as shown on Plate G-530	57440 Gr. 1
D	Link Complete, for clockwise rotation, for motor as shown on Plate G-534	32666 Gr. 3
E	Link Complete, for counter-clockwise rotation, for motor as shown on Plate G-534	32666 Gr. 4
F	Link Complete, for motor as shown on Plate G-530	32666-2 Gr. 1
G	Link Complete, for motor as shown on Plate G-532	32666-1 Gr. 2
H	Armature Support Complete, for motor as shown on Plate G-534	49021 Gr. 5
H1	as above, except for motor as shown on Plate G-532	49021 Gr. 7
H2	same as Fig. H, except with plate Fig. 69 as shown by dotted lines, for motor as shown on Plate G-530	49021 Gr. 8
J	Contact Complete, includes screw, plate and contacts	57441 Gr. 1
K	Armature Support Complete, includes support, screws Fig. 62, spring Fig. 66, and bushings Fig. 67	33249 Gr. 5
1	Nut, No. 14-24 x 1/8" th. hex., for terminal posts, also for screws Figs. 17 and 22	46989-2
2	Washer, for terminal posts	14682
3	Brush, only, for brush holder Fig. A	37938-9
4	Screw, No. 14-24 x 1 5/8" sq. hd., for brush holder Fig. A	350-4
5	Washer, for terminal posts	1225-2
6	Bushing, for screws Figs. 4, 17 and 22	37976-3
7	Link, for brush holders Figs. A and B	35505-40
8	Arm, lower, for brush holders	37931
9	Spring, for brush holders	37974
10	Bracket, only, for brush holders	37937-1

DETAIL PARTS FOR MOTORS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
11	Cap Complete, for brush holders, includes stud for spring	50808 Gr. 1
12	Pin, for fastening cap to lever	18142
13	Arm, upper, for brush holders	37932
14	Spring, for arms Figs. 8 and 13	37936
15	Connector, for brush holders	42760-4 Gr. 1
16	Lever, lower, for brush holders	37933
17	Screw, No. 14-24, for brush holders	37939-1
18	Lever, upper, for brush holders	37934
19	Brush, only, for brush holder Fig. B	37938-7
20	Screw, No. 14-24 x 7/8" sq. hd., for brush holder Fig. B	350-14
21	Connector, for brush holder Fig. B	46413-6
22	Screw, No. 14-24 x 1-1/4" sq. hd., for brush holder Fig. B	350-1
23	Case, only, for contactor	57443
24	Contact, only, for contactor	42799-7 Gr. 13
25	Bar Complete, includes plate and spring seat	57252 Gr. 1
26	Screw, No. 8-32 x 2-1/2" fil. hd., for mounting contactor	28989-42
27	Nut, 1/4"-28 x 1/8" th. hex., for trunnion screw Fig. 28	1472-8
28	Trunnion Screw, 1/4"-28, bearing for bar Fig. 25	49522-20
29	Lower Contact Complete, as shown, includes screw, support and contact	57444 Gr. 1
30	Stop, for contact Fig. 29	35470-48
31	Screw, No. 5-40 x 3/4" fil. hd., with hex. nut and lock washer, for fastening stop and connector to bar Fig. 25	28876-4 54743-1 53029-26
32	Nut, No. 14-24 x 3/16" th. hex., for terminal posts	42839-5
33	Connector Complete, for contactor	42760-105 Gr. 1
34	Contact Complete, for contactor, includes spring and contacts	13062-20 Gr. 1

DETAIL PARTS FOR MOTORS

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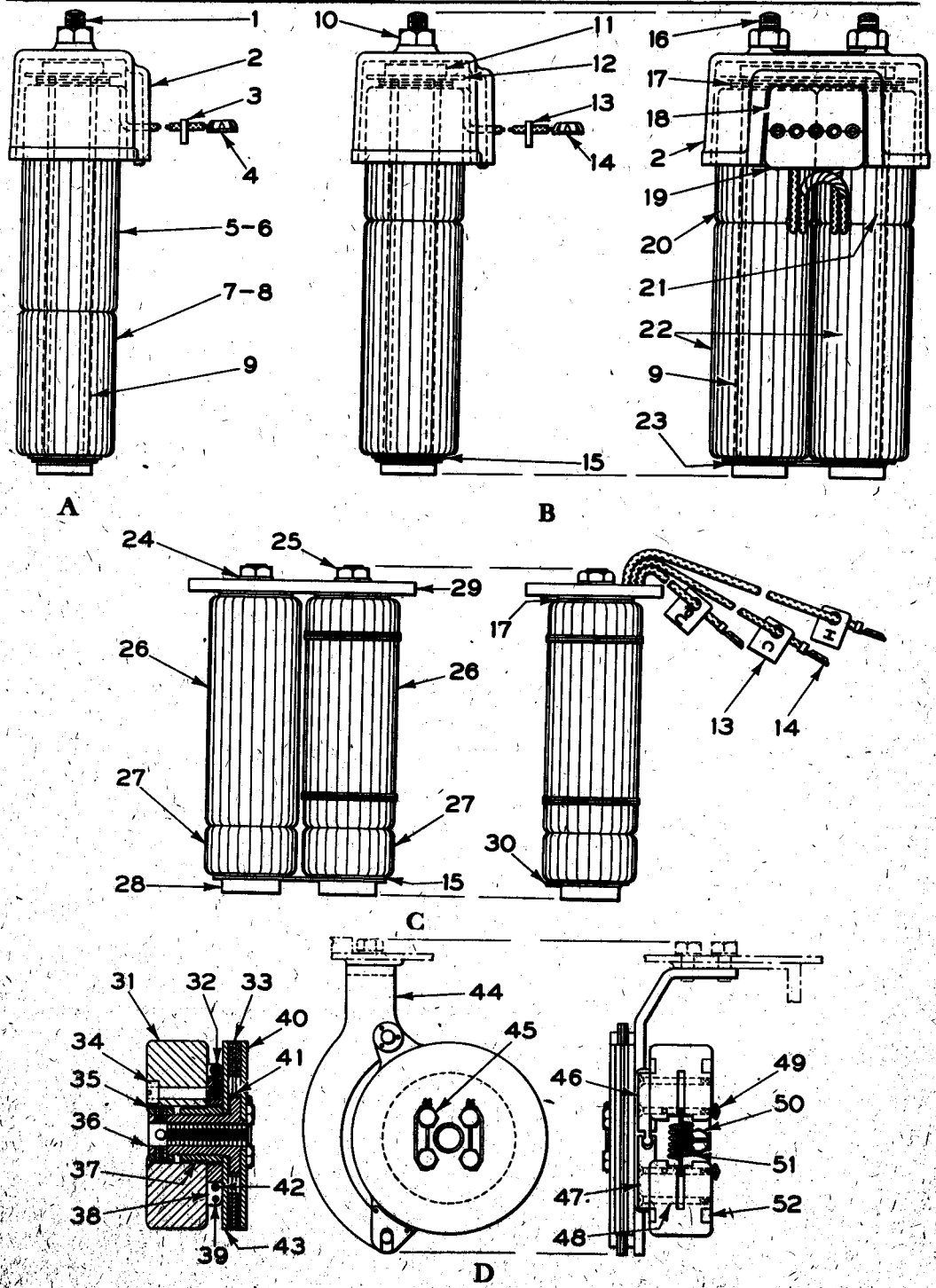
Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
35	Washer, for holding bar Fig. 39 in place	43083-6
36	Screw, No. 10-32 x 5/16" fil. hd., for washer Fig. 35	34456-5
37	Car Seal, for contactor	35285
38	Screw, No. 14-24, for spring Fig. 40	50313-3
39	Bar, for holding glass	57454
40	Spring, for bar Fig. 25	586-133
41	Nut, 1/8"-56 x 1/8" th. hex., for rod Fig. 43	12680-5
42	Glass, only, for contactor	56061-13
43	Rod Complete, includes stud, for operating contactor	57251 Gr. 1
44	Pin, for links Figs. D, E, F and G	504-84
45	Washer, for pins Figs. 44 and 48	42312
46	Link Complete, for links Figs. D and E, includes spacers	32659
47	Spring, for dog Fig. 49	33203-1
48	Pin, for links Figs. D, E, F and G	38495
49	Dog, only, for links Figs. D and E	32728
50	Link Complete, for link Fig. F, includes spacers and pin	32659-2 Gr. 1
51	Clip, for spring Fig. 52	30645-6
52	Spring, for dog Fig. 53	586-141
53	Dog, only, for link Fig. F	43650-3
54	Link Complete, for link Fig. G, includes spacers	32659-1 Gr. 1
55	Spring, for dog Fig. 57	43651
56	Pin, 1/8" x 5/8", for spring Fig. 55	721
57	Dog, only, for link Fig. G	43650-2
58	Bushing, for pins	6714-241
59	Washer, for bushing Fig. 58	50587
60	Screw, No. 14-24 x 1-1/4" sq. hd., used as terminal post for contactor	350-1

DETAIL PARTS FOR MOTORS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
61	Armature Complete, includes studs for springs Fig. 64, for armature supports Figs. H and H1 . . .	49020
61a	as above, except with plate and rivet Fig. 69, for armature support Fig. H2	49020-3 Gr. 1
62	Screw, No. 6-32 x 1/4" rd. hd., for fastening spring Fig. 66 to support	2613
63	Washer, for springs Fig. 64, for armature support Fig. H only	5046
64	Spring, 5/8" lg., for armature support Fig. H. . . .	33209-1
64a	as above, except 7/8" lg., for armature supports Figs. H1 and H2.	786-203
64b	same as Fig. 64, except 13/32" lg.	786-198
65	Nut, castle, No. 10-32 hex., for studs on armature	33247
66	Spring, for armature support.	33200
67	Bushing, for armature support.	6714-234
68	Eyelet, for studs on armature	49890
69	Plate, with rivet, for armature support Fig. H2. . .	35845-90 33172-13

MEMORANDUM



DETAIL PARTS FOR MOTORS

DETAIL PARTS FOR MOTORS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Hold-Clear Magnet Complete, for 8-10 volt, d-c. motor, as shown on Plate G-534	49025-2 Gr. 15
B	Hold-Clear Magnet Complete, for 8-10 volt, d-c. motor, as shown on Plate G-532	49025-2 Gr. 18
C	Hold-Clear Magnet Complete, with 926 ohm holding coils, for 8-10 volt, d-c. motor, as shown on Plate G-530 Fig. A	49025-3 Gr. 1
C1	as above, except with 560 ohm holding coils, for motor, as shown on Plate G-530 Fig. A1	49025-3 Gr. 4
D	Centrifugal Brake Complete, as shown, for motors shown on Plates G-530 and G-532	56795 Gr. 1
1	Core Complete, for magnet Fig. A. Includes cap and pin	49022-1 Gr. 2
2	Cap, for magnets Figs. A and B	33204-1
3	Tag, for magnet Fig. A	34558
4	Eyelet, for magnet Fig. A, for 1/4" post, takes No. 14, 16 or 18 wire	41858
5	Coil, holding, 320 ohms, for magnet Fig. A, inside lead 3-1/2" lg., outside lead 3-1/2" lg	50623 Gr. 1
5a	as above, except 430 ohms	50623 Gr. 5
6	Coil, holding, 320 ohms, for magnet Fig. A, inside lead 3-1/2" lg., outside lead 17" lg	50623 Gr. 2
6a	as above, except 430 ohms	50623 Gr. 6
7	Coil, pickup, 8.3 ohms, for magnet Fig. A, inside lead 2'-9 1/2" lg., outside lead 3-1/2" lg	50622 Gr. 2
8	Coil, pickup, 8.3 ohms, for magnet Fig. A, inside lead 3-1/2" lg., outside lead 14-1/2" lg	50622 Gr. 1
9	Tube, for cores on magnets Figs. A and B.	50624
10	Nut, 3/8"-16 x 11/16" th. hex., for cores	1156
11	Yoke, for cores	48844
12	Insulator, for yoke	49836
13	Tag, for magnets Figs. B and C.	44983-24
14	Eyelet, for magnets Figs. B and C, for 1/4" and 5/16" posts and No. 14 wire, has clamping ears for 3/16" dia. insulation	17819-3
15	Washer, for bottom of coils	17546

DETAIL PARTS FOR MOTORS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
16	Core Complete, for magnet Fig. B. Includes cap and pin.	49022-1 Gr. 3
17	Felt Washer, for top of coils	1533-15
18	Block, upper half, for wires.	49834-1
19	Block, lower half, for wires.	49835-1
20	Coil, pickup, 13.1 ohms, for magnet Fig. B, inside lead 3-1/2" lg., outside lead 14-1/2" lg.	50625 Gr. 1
21	Coil, pickup, 13.1 ohms, for magnet Fig. B, inside lead 3-1/2" lg., outside lead 2'-0 1/2" lg.	50625 Gr. 2
22	Coil, holding, 280 ohms, for magnet Fig. B, inside lead 17" lg., outside lead 3-1/2" lg.	50626 Gr. 12
23	Link, for cores	38496
24	Lock Washer, for nut Fig. 25	42175
25	Nut, 3/8"-16 x 3/16" th. hex., for core Fig. 28	35519
26	Coil, holding, 463 ohms, for magnet Fig. C	50626-1 Gr. 1
26a	as above, except 280 ohms, for magnet Fig. C1	50626-1 Gr. 4
27	Coil, pickup, 13.8 ohms, for magnet Fig. C and C1	50625-1 Gr. 1
28	Core Complete, for magnet Fig. C and C1. Includes cap and pin	49022-2 Gr. 1
29	Yoke, for cores	48844-1
30	Plate, for bottom of magnet Fig. C and C1,	35845-91
31	Weight, for brake	53113-3
32	Roller, for brake	31942-56
33	Disc Complete, includes friction discs and jaw.	56786 Gr. 1
34	Nut, 1/4"-28, rd., for studs on plate Fig. 38	35281-6
35	Collar, for sleeve Fig. 36	420-41
36	Sleeve, for motor shaft	585-37
37	Spider, for brake	56618
38	Plate Complete, includes studs, for brake	56994 Gr. 1
39	Pin, 1/8" x 1-31/64", for rollers Fig. 32	500-9
40	Disc, for brake.	39719-28
41	Spring, for brake	786-200

DETAIL PARTS FOR MOTORS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
42	Pin, 5/32" x 1-31/32", for plate Fig. 38.	500-10
43	Disc, for brake	39719-30
44	Hanger Complete, includes two studs, for brake . .	56993 Gr. 1
45	Screw, 1/4"-28 x 3/4", hex. hd., for fastening discs to brake	30049-6
46	Lever, as shown, for brake	56615
47	Lever, as shown, for brake	56616
48	Screw, No. 8-32 x 1-17/32", fl. hd., for fastening levers Figs. 46 and 47 to brake	18746-19
49	Pin, for spring Fig. 51	34262-2
50	Screw, 1/4"-28 x 7/16", hex. hd., with lock nut, for locking brake unit to motor shaft	30049-7 1472-8
51	Spring, for weights.	1581-26
52	Block, for weights	17745-12

WESTERN RAILROAD SUPPLY COMPANY

MEMORANDUM

WESTERN RAILROAD SUPPLY COMPANY

MEMORANDUM

W
RRS

Section

G

Part No. 6

Highway Crossing Gates

Mechanism Replacement Parts

WESTERN RAILROAD SUPPLY COMPANY

DIVISION OF WESTERN INDUSTRIES, INC.

MANUFACTURERS AND DISTRIBUTORS

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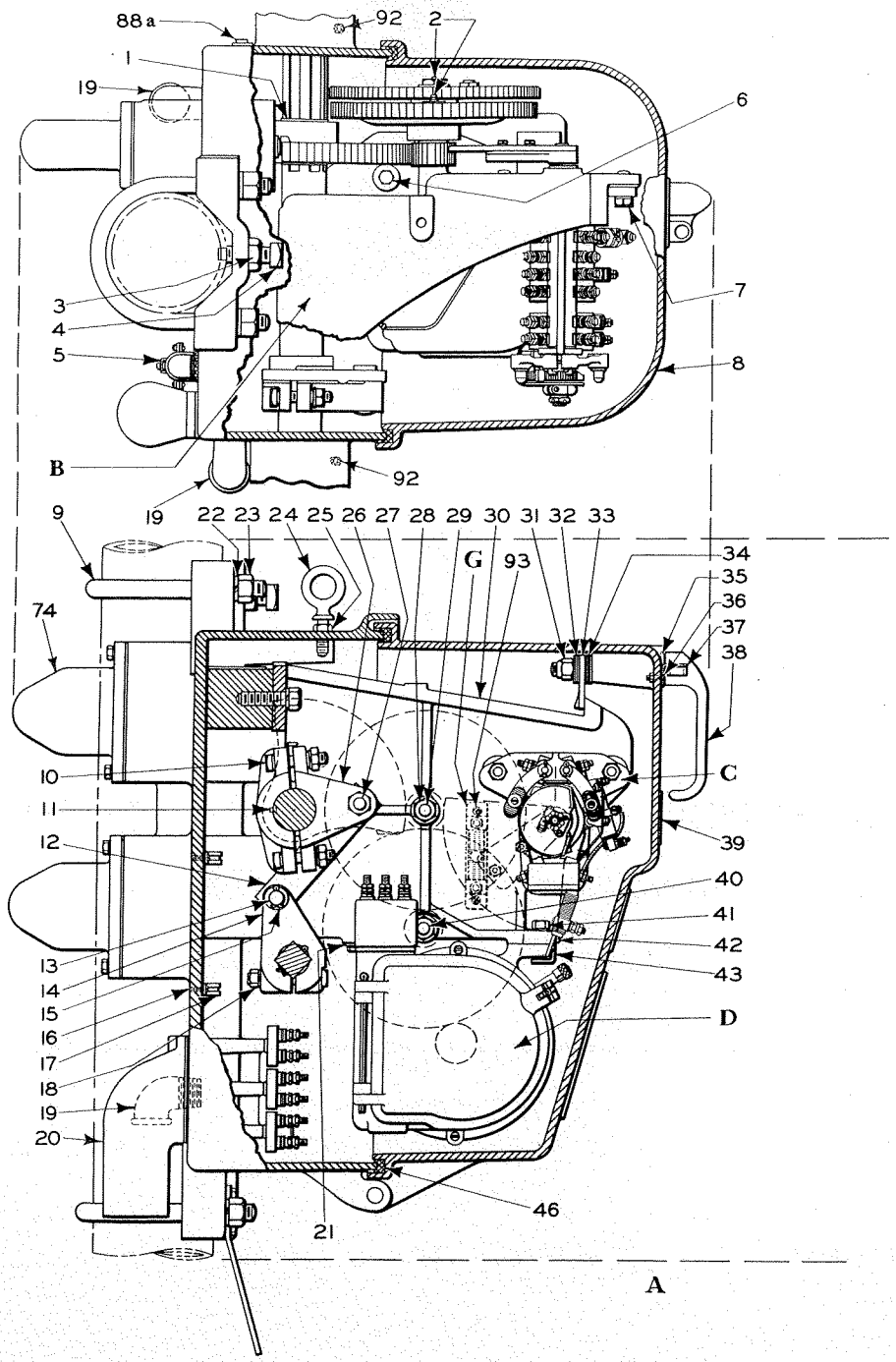
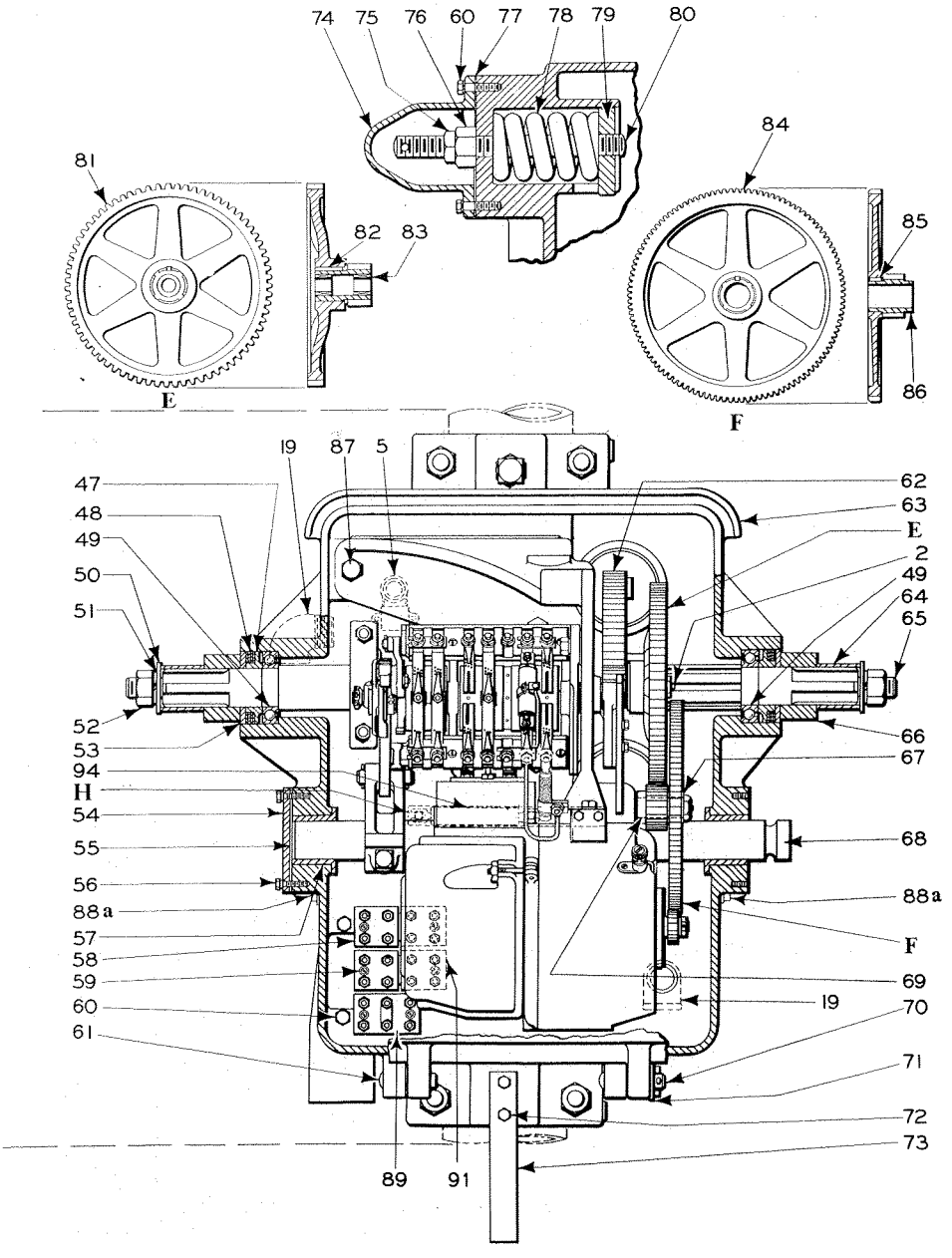
PLATE G-610

WESTERN RAILROAD SUPPLY COMPANY



TYPE B CROSSING GATE MECHANISMS



TYPE B CROSSING GATE MECHANISMS

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanisms and Detail Parts

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Type B Crossing Gate Mechanism Complete, for roadway arm only (without sidewalk arm shaft) with 12-20 volt d-c. motor and "U" bolts for mounting to 5" I.D. pipe post. Does not include resistor, heater or counter.	3566-121
A1	Type B Crossing Gate Mechanism Complete, for roadway and sidewalk arms, with 12-20 volt d-c. motor and "U" bolts for mounting to 5" I.D. pipe post. Does not include resistor, heater or counter.	3566-122
B	Mechanism Frame Complete, with motor, circuit controller, gears and studs all assembled to frame Fig. 30.	59887 Gr. 1
C	Circuit Controller Complete. For details and order references see Plate G-620.	34610-3
D	Motor Complete, with hold-clear assembly, 12-20 volts. For details and order references see Plate G-632.	29890-9 Gr. 2
E	Main Intermediate Gear Complete, 72 teeth, with pinion having 10 teeth.	29964-3 Gr. 1
F	First Intermediate Gear Complete, 116 teeth, with pinion having 14 teeth	29965-1 Gr. 2
G	Resistor, adjustable, resistance 1.4 ohms, adjustable in steps of .069 ohms	46450-23 Gr. 1
H	Heater Complete, 25 watts, 120 volts, includes all parts for mounting	56090-17 Gr. 1
1	Retaining Ring, for sector	5713-29
2	Oiler, ¼" drive for studs Figs. 29 and 40, 67½ degree, two required	34232-43
3	Nut, ¾" - 10 hex., for screw Fig. 4	4364
4	Screw, ¾" - 10 x 2-½" dog pt., for locking mechanism to pole	6954-7

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
5	Connector, ¾″ x 90°	44515-39
6	Screw, ⅜″ - 16 special, for mounting motor	56062-2
7	Screw, ½″ - 13 x 1¼″ hex. hd., with lock washer, for mounting circuit controller	3343-4 091-7
8	Cover Complete, for mechanism case, includes handle, gasket and name plate Fig. 39	59888 Gr. 1
8a	Cover Complete, for mechanism case, includes gasket and name plate Fig. 39 only	59888 Gr. 2
9	"U" Bolt, ¾″ - 10, for fastening mechanism to 5″ I.D. pipe	29953
10	Bolt, ½″ - 13 x 2½″ sq. hd., with hex. nut and lock washer, for crank Fig. 26	092-2 091-7
11	Woodruff Key #21, for fastening crank Fig. 26 to shaft	0387
12	Link, for cranks	734-33
13	Pin, for fastening link Fig. 12 to crank Fig. 14	504-396
14	Crank, as shown	57520-1
15	Washer, for pin Fig. 13	2400-1
16	Screw, No. 10-32 x ½″ rd. hd., with lock washer, for cleats Fig. 17	3044-9 53029-7
17	Cleat, for wires	54108-8
18	Bolt, ½″ - 13 x 3½″ hex. hd., with hex. nut and lock washer, for crank Fig. 14	0439-1 091-7
19	Ventilator, for case, screened, 1″ street ell	52981 Gr. 1
20	Coupling, for 2″ flexible metallic conduit	45689-124

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
21	Bracket, for supporting motor while bolting in place	32168-37
22	Lock Washer, for "U" bolt	029
23	Nut, ¾" - 10 hex., for "U" bolt	0272
24	Eye Bolt, ½", for mechanism	2102
25	Nut, ½" - 13 hex., for eye bolt	41895
26	Crank, as shown	57520-2
27	Stud, with hex. nut and lock washer, for fastening link Fig. 12 to crank Fig. 26	441-602 645-7 0113-2
28	Nut, ⅝" - 18 x 1" hex., with lock washer, for studs Figs. 27, 29 and 40	645-7 0113-2
29	Stud, for gear Fig. E, for mechanisms with serial no's. up to 2500	42830-64
29a	As above, except for mechanisms with serial no's. 2501 and up	42830-71
30	Frame only, for mechanism	59839
	NOTE — When ordering frame for the original design mechanism, new stud Fig. 29a is required.	
31	Nut, ⅝" - 18 hex., for handle	42333-11
32	Washer, 1/16" tk., with round hole, for handle	39113-3
33	Latch, for handle	53718-25
34	Washer, 1/16" tk., with square hole, for handle	7838-4
35	Washer, rubber, for handle	1333-21
36	Screw, No. 10-32 x ⅝" fl. hd., with hex. nut, for clip ..	6727-10 38239-1
37	Clip, for padlock	53721-76
38	Handle Complete, for cover, includes latch, hex. nut, rubber and metal washers	59889 Gr. 1
38a	Handle, only, with shaft	53720-15 Gr. 2
39	Name Plate, with drive screws, for mechanism	401-662 52681-12

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
40	Stud, for gear Fig. F	42830-65
41	Screw, 3/8" - 16 hex. hd., for mounting motor	30049
42	Screw, 1/4" - 20 x 1/2" hex. hd., with lock washer, for brackets Figs. 21 and 43	14078-1 0510-1
43	Bracket, for supporting motor while bolting in place	32168-38
46	Gasket, 7'-0" long, for cover	43460-3
47	Ring, for bearings Fig. 49	59838
48	Gasket, felt, for rings	13014-293
49	Ball Bearing, for each end of shaft	49536-78
50	Washer, for each end of shaft	0393-4
51	Lock Washer, for nut Fig. 52	0426-3
52	Nut, 7/8" - 9 hex., for each end of shaft	523-11
53	Washer, for each end of shaft	626-145
54	Plate, for side of case	59215-1
55	Gasket, for plate Fig. 54	13014-291
56	Screw, 1/4" - 20 x 7/8" hex. hd., with lock washer, for fastening plate Fig. 54 to case	29767-1 0510-1
57	Bushing, for each end of shaft Fig. 68	8942-96
58	Terminal Block Complete, 4 way with tags marked 1 to 8	46048-54 Gr. 1
59	Screw, No. 10 - 32 x 3/4" rd. hd., with lock washer, for mounting terminal blocks	3044-13 53029-7
60	Screw, 3/8" - 16 x 1 1/4" hex. hd., with lock washer, for mounting coupling Fig. 20 and cap Fig. 74	2472-12 0569-2
61	Hinge Pin, for door, for use in position shown	51358-5

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

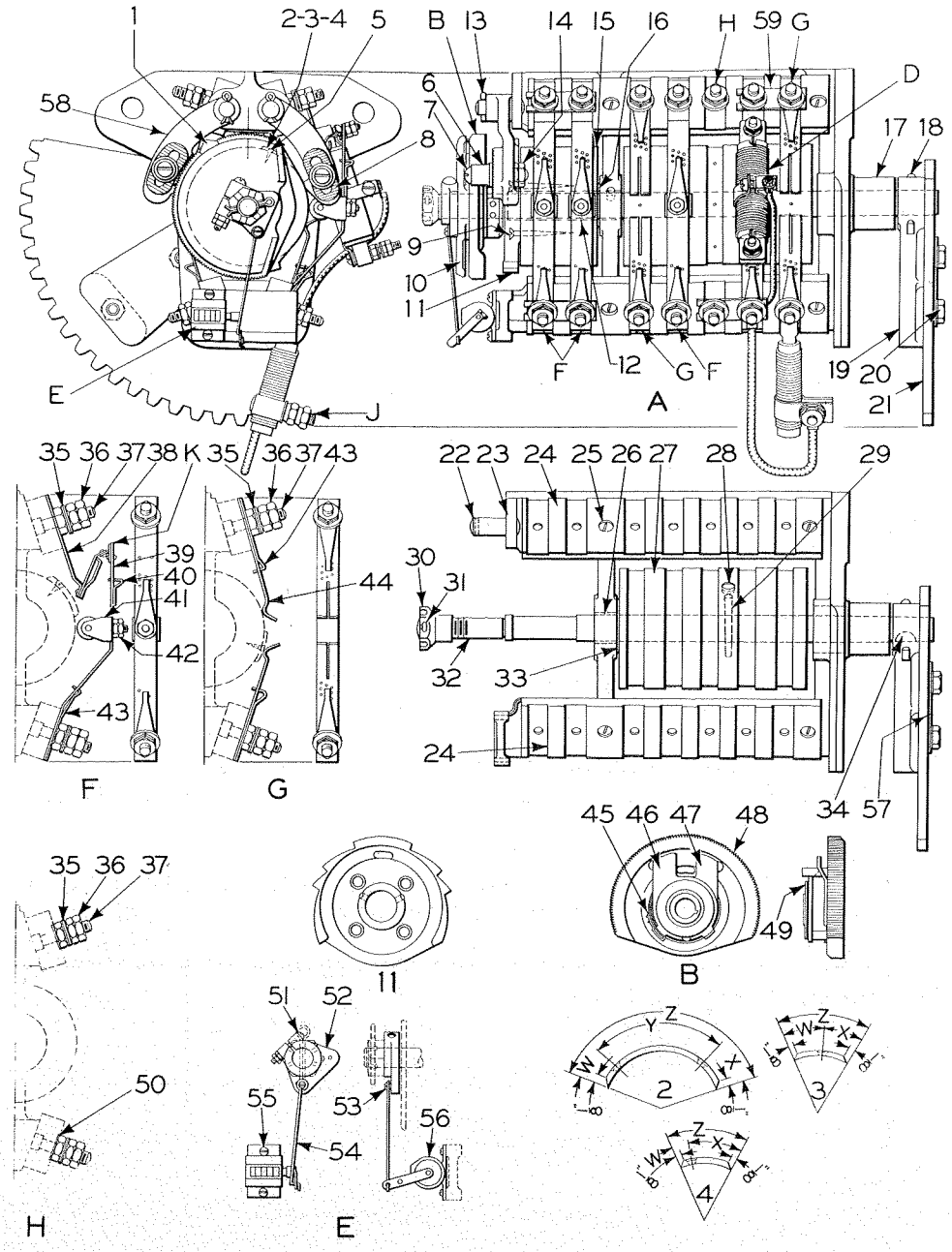
Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
62	Sector, as shown	29830-7
63	Case, only, for mechanism	59837
64	Spacer, for each end of shaft	33645-14
65	Shaft, for roadway arm	57524-2
66	Spacer, for each end of shaft	35463-8
67	Washer, for studs Figs. 29 and 40	7626-3
68	Shaft, for sidewalk arm	29839-7
69	Roller Bearing, for pinion on gear Fig. F	29998 Gr. 2
70	Hinge Pin, for door, for use in position shown	51358-6
71	Washer, for hinge pin Fig. 70	2400-1
72	Screw, ⅜″ - 16 x ¾″ hex. hd., with lock washer, for fastening spring Fig. 73 to case	0395-7 0569-2
73	Spring, stop for cover	16111-120
74	Cap, for stud Fig. 80	35491-27
75	Nut, 1″ - 8 x ½″ tk. hex., for locking nut Fig. 76	1047-16
76	Nut, 1″ - 8 x 1″ tk. hex., for stud Fig. 80	0290-1
77	Gasket, for caps Fig. 74	13014-292
78	Spring, as shown	786-294
79	Nut, 1″ - 8 special, for stud Fig. 80	49513-3
80	Stud, 1″ - 8 x 10½″ long, for spring	879-74
81	Gear and Pinion, machined for needle bearing	29831-3 29840-2
82	Key, 3/16″ x 3/16″ x 1⅛″, for fastening pinion to gear	1153-1

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
83	Needle Bearing, for gear	57529-3
84	Gear, only, 116 teeth, for gear Fig. F.	29832-2
85	Key, 3/16″ x 3/16″ x ½″, for fastening pinion to gear	29848
86	Pinion, only, 14 teeth for gear Fig. F	29841
87	Screw, ⅝″ - 11 x 2″ hex. hd., with lock washer, for fastening frame to case	44987 0113-2
88a	Pipe Plug, ½″	0678-2
89	Terminal Block Complete, 3 way with tags marked 17 to 22	46048-55 Gr. 1
91	Terminal Block Complete, 4 way, with tags marked from 9 to 16	46048-54 Gr. 2
92	Oiler, ¼″ drive, straight, four req'd., for shafts Figs. 65 and 68	34232-21
93	Screw, No. 14-24 x 2″ rd. hd., with hex. nuts and washers, for mounting resistor, two required	360 42839-5 1225-2 29728
94	Resistor, only, for heater	55291-4



CIRCUIT CONTROLLER

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
CIRCUIT CONTROLLER
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Circuit Controller Complete, for Type B Gate Mechanism, does not include counter	34610-3
B	Trip Plate Complete, as shown	34616 Gr. 1
D	Snubbing Resistor, 0 to 5.0 ohms	55945-6 Gr. 2
E	Counter Complete, as shown	38408 Gr. 1
F	Operating Contact Group Complete as, shown	39927-2 Gr. 2
G	Contact Group Complete, as shown	39927 Gr. 3
H	Binding Post Group Complete, as shown	39927-10 Gr. 2
J	Snubbing Resistor, 0 to 1.1 ohms	56850
K	Arm Complete, for contact group Fig. F, includes 1-39, 1-40, 1-41 and 2-42	35321-2 Gr. 2
1	Trip Finger, for tripping latch arm	34655
2	Segment	See Table at end of this list for Segments
3	Segment	
4	Segment	
5	Wood Screw, No. 6 x ½" fl. hd., for fastening segments to commutator	30127
5a	as above, except No. 6 x ½" spl. hd., for fastening segments to commutator	44734
6	Knob, for latch arm	29969
7	Screw, No. 14-24 x 1¼" rd. hd., for fastening knob to latch arm	0660-1
8	Latch Arm, only, right hand	30029-9

PLATE G-620

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
CIRCUIT CONTROLLER
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
9	Wood Screw, No. 8 x 1½″ fl. hd., for fastening latch plate to commutator	43669
10	Plate, for trip finger	34651
11	Latch Plate	34649-1
12	Bushing, for commutator	29977-1
13	Cotter Pin, 3/32″ x ⅝″, for stud Fig. 22	035
14	Nut, No. 14-24 hex., for screw Fig. 7	46989-2
15	Commutator, two-way, for circuit controller	34652
16	Washer, 1″ O.D., for use between frame and commutator Fig. 15	47769
17	Bearing, for shaft	40724-7
18	Cotter Pin, 3/16″ x 1¾″, for arm	045
19	Arm, for sector	59844
20	Screw, 5/16″ - 18 x ¾″ hex. hd., with lock washer for fastening sector to arm	0441-3 0623-1
21	Sector, for circuit controller	29830-6
22	Stud, for trip arm	34657
23	Frame, only	34648-1
24	Terminal Block, only	43273-4
25	Screw, No. 10-32 x ⅝″ rd. hd., for mounting contact blocks	3044-10
26	Bushing, for shaft	34663
27	Commutator, five-way, for circuit controller	29972

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
CIRCUIT CONTROLLER
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
28	Set Screw, 5/16″ - 18 x ¼″, for locking pin Fig. 29	3018-2
29	Taper Pin, #4 x 2″ lg., for fastening commutator Fig. 27 to shaft	48650-1
30	Castle Nut, ½″ - 13, for shaft	34659
31	Cotter Pin, ⅛″ x 1¼″, for nut Fig. 30	041
32	Shaft, only, for circuit controller	34647-4
33	Washer, 1⅜″ O.D., for use between frame and commutator Fig. 27	35133
34	Woodruff Key #3, for fastening arm to shaft	027
35	Washer, for terminal posts	1225-2
36	Nut, No. 14-24 hex., for terminal posts	42839-1
37	Screw, No. 14-24 x 1¼″ sq. hd., used as terminal post	350-1
38	Arm Complete, for contact group Fig. F, includes support, stop and contact riveted together	35466-2 Gr. 2
39	Contact Spring, with contact, for arm Fig. K	35330-2 Gr. 2
40	Adjustor, for contact spring Fig. 39	29967-1
41	Holder Complete, with stud, roller and pin	42470 Gr. 1
42	Nut, No. 8-32 hex., for stud on holder	9188
43	Adjustor, for arm Fig. K and spring Fig. 44	29967
44	Spring, only, for contact group Fig. G	29966
45	Spring, for trip plate	34618
46	Plate Complete, with stud, for spring Fig. 45	34619 Gr. 1

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
CIRCUIT CONTROLLER
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
47	Plate, only, for trip plate	34617-1
48	Trip Plate, only	34650-1
49	Washer, for spring	35133
50	Washer, for binding group Fig. H	8148
51	Screw, No. 10-32 x 1¼″ rd. hd., with hex. nuts, for fastening clamp Fig. 52 to nut Fig. 30	3044-17 38239-1
52	Clamp, only, for counter	34660
53	Screw, No. 6-32 x ⅜″ rd. hd., for fastening rod Fig. 54 to clamp	2426-8
54	Rod, only, for operating counter	34666
55	Screw, No. 4-36 x ⅜″ rd. hd., for fastening counter to frame	29107
56	Counter, only	26674
57	Plate Washer, for screws Fig. 20	1601-143
58	Latch Arm only, left-hand	30029-11
59	Connector, four required	4906-148

DETAILS OF SEGMENTS

	Dim. W	Dim. X	Dim. Y	Dim. Z	Thickness of Segment	
2	21/32″ 25°	33/64″ 20°	1 11/64″ 45°	2 11/32″ 90°	.1019″	29990-2
2a	55/64″ 33°	1 3/64″ 40°	1 11/64″ 45°	3 5/64″ 118°	.1019″	29990-3
2b	17/64″ 12½°	23/32″ 25°	2 11/32″ 90°	3 21/64″ 127½°	.1019″	29990-25

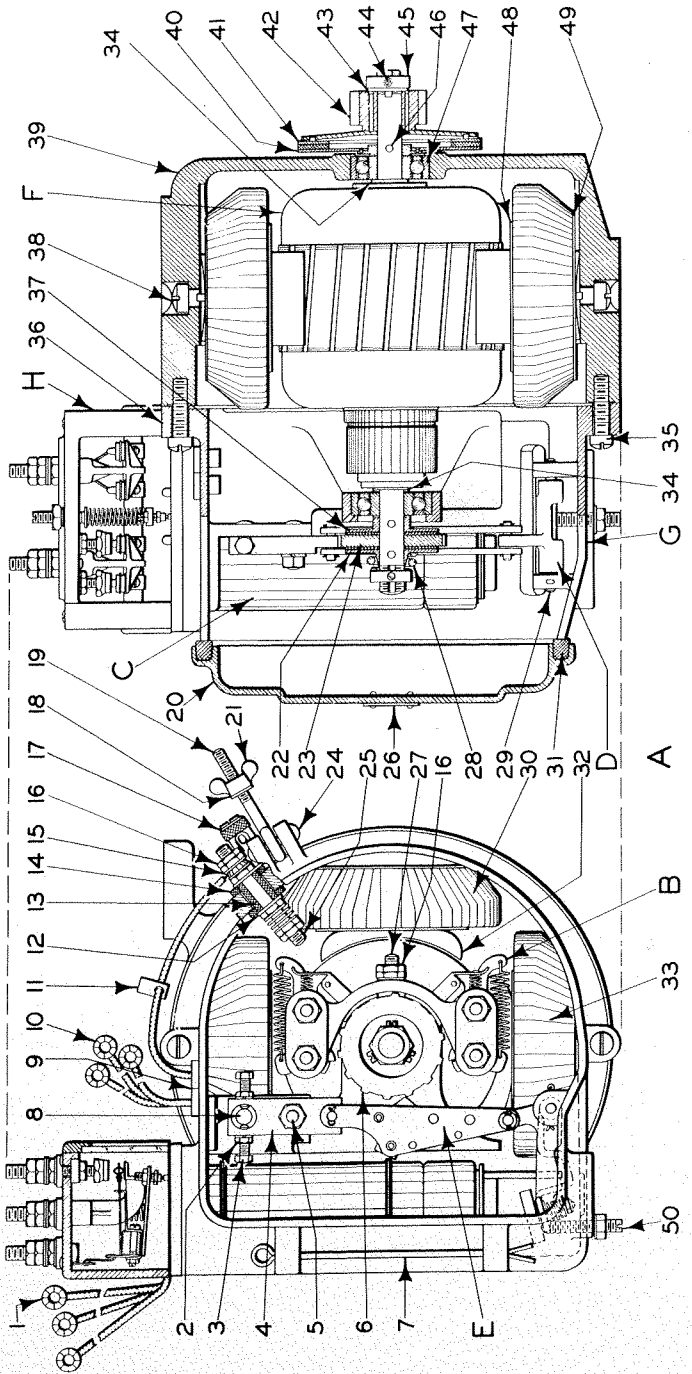
WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
CIRCUIT CONTROLLER
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description					Drawing Reference
	Order by plate, figure number and description DETAILS OF SEGMENTS (Continued)					
	Dim. W	Dim. X	Dim. Y	Dim. Z	Thickness of Segment	
3	19/32" 22½°	19/32" 22½°		1 11/64" 45°	.1019"	29990-7
3a	21/32" 25°	23/32" 27½°		1 3/8" 52½°	.1019"	29990-13
3b	21/32" 25°	29/32" 35°		1 9/16" 60°	.1019"	29990-59
4	21/64" 12½°	1 1/8" 42½°		1 29/64" 55°	1/8"	29990-16
4a	21/64" 12½°	1" 37½°		1 21/64" 50°	1/8"	29990-15

NOTE: All dimensions based on outside circumference.



MOTOR AND HOLD-CLEAR ASSEMBLY

For Replacement Parts Only

WESTERN. RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism

MOTOR AND HOLD-CLEAR ASSEMBLY DETAIL PARTS

For Replacement Parts Only

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Motor Complete, with hold-clear assembly, 12-20 volts, direct-current (For replacement Parts only)	29890-8 Gr. 2
B	Brush Holder Complete. For details and order references see Plate G-636, Fig. A	37930-1 Gr. 10
C	Hold-Clear Magnet Complete with two 150 ohm holding coils. For details and order references see Plate G-636, Fig. C	49025-3 Gr. 7
D	Hold-Clear Armature Complete. For details and order references see Plate G-636, Fig. D ..... When ordering replacement Fig. D, also order Stop Screw Fig. 50.	49021-2 Gr. 2
E	Link Complete. For details and order references see Plate G-636, Fig. B	32666-3 Gr. 2
F	Armature Complete, for motor	29893-1 Gr. 6
G	Bearing Bracket, with cover, gasket, stud for brush holder bracket, eyebolt, wing nut, pins, nuts and washers (1-7, 1-18, 1-19, 1-20, 1-21, 1-24, 1-27, 1-29, 1-31, and 1-36)	39057-1 Gr. 9
H	Contactor Complete, For details and order references see Plate G-636, Fig. E	57440 Gr. 4
1	Eyelet, for ¼" and 5/16" posts and No. 14 wire, has clamping ears for 3/16" dia. insulation	17819-3
2	Nut, No. 10-32, hex. with washer, for screw Fig. 3	577-8 53029-7
3	Screw, No. 10-32 x ⅝" hex. hd., for fastening hanger block to stud Fig. 8	13006-16
4	Hanger Block, for link Fig. E	32686-1
5	Stud, ¼" - 28, with hex. nut and lock washer, for mounting hanger block	9065-6 1472-4 0510-1

PLATE G-630

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism

MOTOR AND HOLD-CLEAR ASSEMBLY DETAIL PARTS

For Replacement Parts Only

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
6	Hold-Clear Disc, for retaining mechanism	43128-6
7	Cotter Pin, 3/16" x 6¼", hinge for cover	35622
8	Stud, for fastening hanger block to bearing bracket	441-450
9	Bushing, fibre, for lead wires	27371
10	Eyelet, for ¼" and 5/16" posts and No. 14 wire, with clamping ears for 5/16" dia. insulation	17819-4
11	Tag, for marking wires. Specify marking required	44983-24
12	Washer, for binding post	14682-2
13	Bushing, fibre, for binding post	7350-196
14	Washer, fibre, for binding post	493-187
15	Washer, for binding post	1225-2
16	Nut, No. 14-24 hex., for binding post also for mounting brush holder	46989-2
17	Oiler Complete, for motor, includes bracket, tube and screw for mounting	48674-1 Gr. 2 3044-5
18	Washer, for wing nut	22890
19	Eyebolt, for cover	29963-2
20	Cover, only, for case	32662-2
21	Wing Nut, for eyebolt	29995
22	Cone, for hold-clear disc.	30077-4
23	Friction Disc, for cone	45557-30
24	Pin, for fastening eyebolt to frame	7568

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism

MOTOR AND HOLD-CLEAR ASSEMBLY DETAIL PARTS

For Replacement Parts Only

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
25	Screw, No. 14-24 x 2½" lg., headless, used as binding post	391-2
26	Name Plate, with escutchion pins	401-6 0738
27	Stud, with pin, for mounting brush holder	50613-1 4793-1
28	Spring, for friction cone Fig. 22	30506-3
29	Shaft, for armature support	32758
30	Field Coil Complete, double winding, two required	29999-7 Gr. 1
31	Gasket, 2' - 8" long, for cover	47436
32	Pole Piece, for motor	29864
33	Field Coil Complete, single winding, two required	29999-1 Gr. 13
34	Shim Washer	34254
35	Screw, 5/16" - 18 x 1¼" fil. hd., for fastening bearing bracket to motor frame	50499
36	Bearing Bracket, only, for motor	32661-7
37	Cone, for hold-clear disc.	30668-1
38	Screw, ⅜" - 16 x 1" fil. hd., for mounting pole pieces	19866
39	Frame, only, for motor	29825-5
40	Disc Complete, includes friction disc riveted in place	56786-1 Gr. 3

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism

MOTOR AND HOLD-CLEAR ASSEMBLY DETAIL PARTS

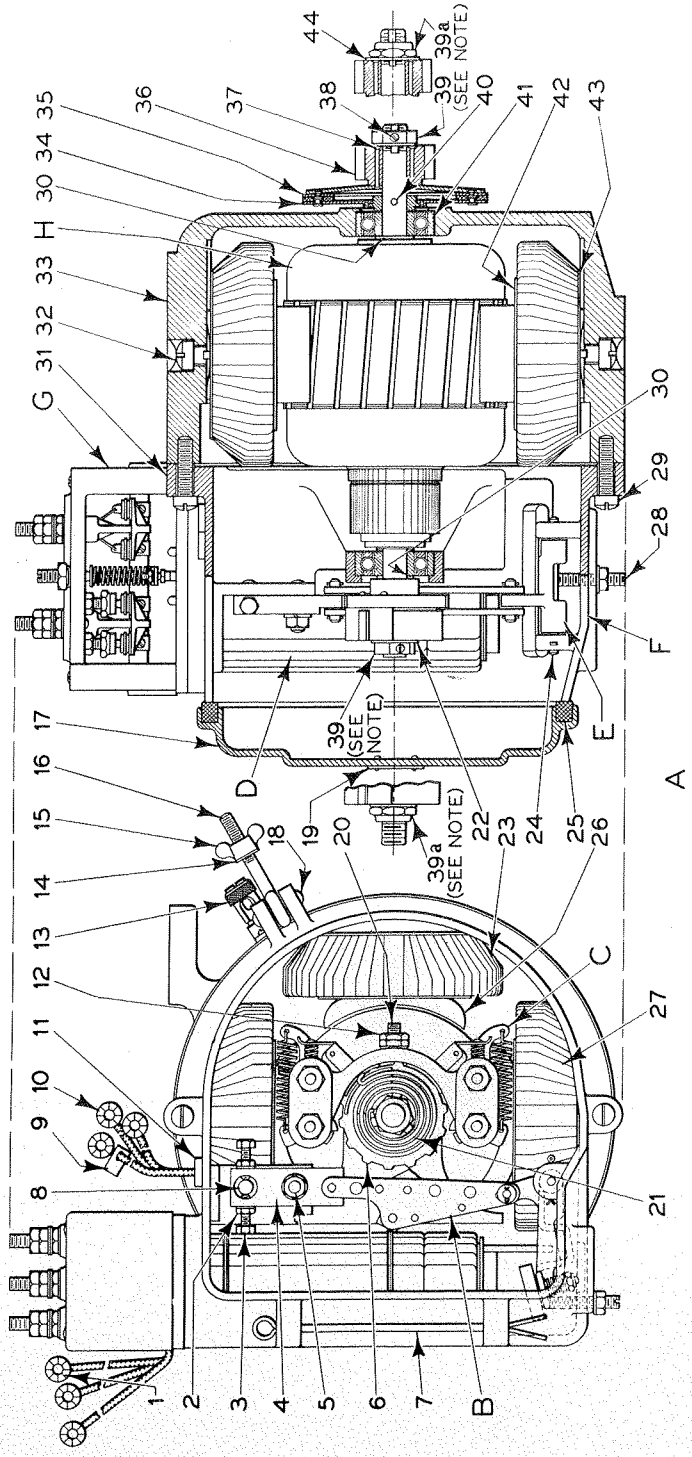
For Replacement Parts Only

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
41	Disc Complete, with eight studs riveted in place	56786-2 Gr. 1
42	Pinion Complete, with spring riveted in place	31336 Gr. 4
43	Washer, fibre, for nut	36149-5
44	Set Screw, No. 10-32, for nut	3018-35
45	Nut, ½" - 24 x ¼" tk. for holding pinion on shaft	1048-3
46	Pin, 5/32" dia. x 37/64", for shaft	500-33
47	Ball Bearing, for each end of shaft	47790
48	Washer, insulation for field coils	493-64
49	Washer, insulation for field coils	493-65
50	Screw, ¼" - 28 x 1 9/16", headless, with hex. nut and lock washer, for hold-clear armature	18140-5 1472-7 53029-2

MEMORANDUM

PLATE G-632



MOTOR AND HOLD-CLEAR ASSEMBLY

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism

MOTOR AND HOLD-CLEAR ASSEMBLY DETAIL PARTS

The detail parts shown in this plate also cover the 29890-9 Gr. 1 motor with the exception of Fig. E.

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Motor Complete, with hold-clear assembly, 12-20 volts, direct current (see note above)	29890-9 Gr. 2
B	Link Complete. For details and order references see plate G-636, Fig. B	32666-3 Gr. 2
C	Brush Holder Complete. For details and order references see Plate G-636, Fig. A	37930-1 Gr. 10
D	Hold-Clear Magnet Complete, with two 150 ohm holding coils. For details and order references see Plate G-636, Fig. C	49025-3 Gr. 7
E	Hold-Clear Armature Complete. For details and order references see Plate G-636, Fig, D. When ordering replacement Fig. E, for motor 29890-9 Gr. 1, also order stop screw Fig. 28	49021-2 Gr. 2
F	Bearing Bracket, with cover, gasket, stud for brush holder bracket, eyebolt, wing nut, pins, nuts and washers (1-7, 1-14, 1-15, 1-16, 1-17, 1-18, 1-20, 1-24, 1-25, and 1-31)	39057-1 Gr. 9
G	Contactor Complete. For details and order references see Plate G-636, Fig. E	57440 Gr. 4
H	Armature Complete, for motor. When order replacement Fig. H, if nuts on each end are not the elastic stop type, two nuts Fig. 39a and lock washers Fig. 44 must also be ordered	29831-1 Gr. 6
1	Eyelet, for ¼" and 5/16" posts and No. 14 wire, has clamping ears for 3/16" dia. insulation	17819-3
2	Nut, No. 10-32, hex. with lock washer, for screw Fig. 3	577-8 53029-7
3	Screw, No. 10-32 x ⅝" hex. hd., for fastening hanger block to stud Fig. 8	13006-16

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
MOTOR AND HOLD-CLEAR ASSEMBLY
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoice

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
4	Hanger Block, for link Fig. B	32686-1
5	Stud, ¼" - 28, with hex. nut and lock washer, for mounting hanger block	9065-6 1472-4 0510-1
6	Hold-Clear Disc Complete, for retaining mechanism	56786-3 Gr. 1
7	Cotter Pin, 3/16" x 6¼", hinge for cover	35622
8	Stud, for fastening hanger block to bearing bracket	441-450
9	Tag, for marking wires. Specify marking required	44983-24
10	Eyelet, for ¼" and 5/16" posts and No. 14 wire, with clamping ears for 5/16" dia. insulation	17819-4
11	Bushing, fibre, for lead wires	27371
12	Nut, No. 14-24 hex., for mounting brush holder	46989-2
13	Oiler Complete, for motor, includes bracket, tube, washer and screw for mounting	48674-1 Gr. 2 3044-9 1225-26
14	Washer, for wing nut	22890
15	Wing Nut, for eyebolt	29995
16	Eyebolt, for cover	29963-2
17	Cover, only, for case	32662-2
18	Pin, for fastening eyebolt to frame	7568
19	Name Plate, with escutcheon pins	401-6 0738
20	Stud, with pin, for mounting brush holder	50613-1 4793-1

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
MOTOR AND HOLD-CLEAR ASSEMBLY
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
21	Spring, for hold-clear disc	34956-7
22	Bushing, for hold clear	21499
23	Field Coil Complete, double winding, two required	29999-7 Gr. 1
24	Shaft, for armature support	32758
25	Gasket, 2'-8" long, for cover	47436
26	Pole Piece, for motor	29864
27	Field Coil Complete, single winding, two required	29999-1 Gr. 13
28	Screw, ¼" - 28 x 1 9/16" headless, with hex. nut and lock washer, for hold-clear armature	18140-5 1472-6 53029-2
29	Screw, 5/16" - 18 x 1¼" fil. hd., for fastening bearing bracket to motor frame	50499
30	Shim Washer	34254
31	Bearing Bracket, only for motor	32661-7
32	Screw, ⅜" - 16 x 1" fil. hd., for mounting pole pieces	19866
33	Frame, only, for motor	29825-5
34	Disc Complete, includes friction disc riveted in place	56786-1 Gr. 3
35	Disc Complete, with eight studs riveted in place	56786-2 Gr. 1
36	Pinion Complete, with spring riveted in place	31336 Gr. 4
37	Washer, fibre, for nut	36149-5
38	Set Screw, No. 10-32, for nut	3018-35
39	Nut, ½" - 24, for ends of armature shaft	1048-3

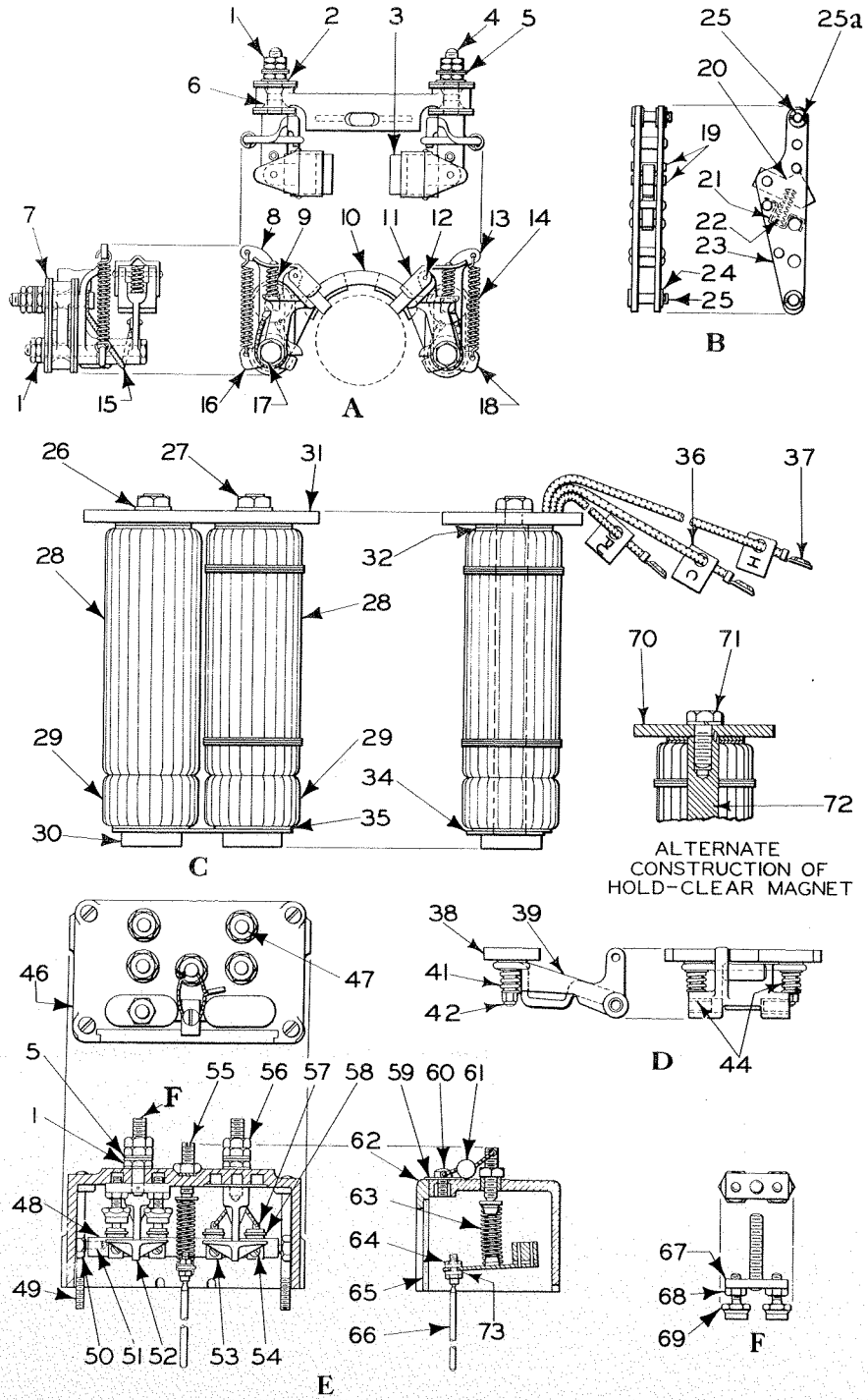
WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
MOTOR AND HOLD-CLEAR ASSEMBLY
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
39a	Nut, elastic stop ½"-20, for ends of armature shaft	42333-29
40	Pin, 5/32" dia. x 37/64", for shaft	500-33
41	Ball Bearing, for each end of shaft	47790
42	Washer, insulation for field coils	493-64
43	Washer, insulation for field coils	493-65
44	Lock Washer, key type, for nut Fig. 39a	29343-3

MEMORANDUM



MOTOR AND HOLD-CLEAR DETAIL PARTS

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
MOTOR AND HOLD-CLEAR
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
A	Brush Holder Complete, for motors shown on Plates G-630 and G-632	37930-1 Gr. 10
B	Link Complete, for motors shown on Plates G-630 and G-632	32666-3 Gr. 2
C	Hold-Clear Magnet Complete, with two 150 ohm holding coils, for motors shown on Plate G-630 and G-632	49025-3 Gr. 7
D	Armature Support Complete, for motors shown on Plates G-630 and G-632	49021-2 Gr. 2
	When ordering replacement Fig. D for motors 29890-8 Gr. 2 or -9 Gr. 1 also order stop screw Fig. 28 shown on Plate G-632.	
E	Contactor Complete, for motors shown on Plates G-630 and G-632	57440 Gr. 4
F	Contact Complete, includes screw, plate and contacts	57441 Gr. 1
1	Nut, No. 14-24 x 1/8" hex., for terminal posts Fig. 17	46989-2
2	Washer, for terminal posts	14682
3	Brush, only, for brush holder	37938-13
4	Screw, No. 14-24 x 1¾" sq. hd., for brush holder	350-5
5	Washer, for terminal posts	1225-2
6	Bushing, for screws Figs. 4 and 17	37976-3
7	Link, for brush holder	35505-54
8	Arm, lower, for brush holder	37931
9	Spring, for brush holder	37974
10	Bracket, only, for brush holder	37937-1
11	Cap Complete, for brush holder, includes stud for spring	50808 Gr. 1

PLATE G-636

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism

MOTOR AND HOLD-CLEAR
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
12	Pin, for fastening cap to lever	18142
13	Arm, upper, for brush holder	37932
14	Spring, for arms Figs. 8 and 13	37936
15	Connector, for brush holder	42760-4 Gr. 1
16	Lever, lower, for brush holder	37933
17	Screw, No. 14-24, for brush holder	37939-1
18	Lever, upper, for brush holder	37934
19	Roll Pin, for link	17188-1
20	Dog, only, for link	43650-10
21	Clip, for spring Fig. 22	30645-12
22	Spring, for dog	586-199
23	Link Complete, includes spacers and pins	32659-3 Gr. 1
24	Washer, for pin Fig. 25	42312-1
25	Pin, for link	1118-42
25a	Cotter Pin, for pin Fig. 25	0652
26	Lock Washer, for nut Fig. 27	53029-5
27	Nut, 3/8" - 16 x 3/8" hex., for core Fig. 30 (original design)	35519
28	Coil, holding, 150 ohms, for magnet	50626-1 Gr. 7
29	Coil, pickup, 13 ohms, out lead 2' - 5" long, for magnet	50625-1 Gr. 5
30	Core Complete, for magnet, includes cap and pin (original design)	49022-2 Gr. 2
31	Yoke, for cores (original design)	48844-1
32	Felt Washer, for top of coils	1533-15

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
MOTOR AND HOLD-CLEAR
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
34	Plate, for bottom of magnet	35845-91
35	Washer, for bottom of coils	17546
36	Tag, for wires, specify marking required	44983-24
37	Eyelet, for ¼″ and 5/16″ posts and No. 14 wire, has clamping ears for 3/16″ dia. insulation	17819-3
38	Armature Complete, includes studs for springs Fig. 41	49020-4 Gr. 1
39	Armature Support Complete, includes bushings Fig. 44	33249-1 Gr. 2
41	Spring, for armature support	586-10
42	Nut, elastic stop, No. 10-32 hex., for studs on armature	42333-8
44	Bushing, for armature support and guide for springs	6714-234
46	Case, only, for contactor	57443
47	Screw, No. 14 - 24 x 1¼″ sq. hd., used as terminal post for contactor	350-1
48	Bar Complete, includes plate and spring seat	57252 Gr. 1
49	Screw, No. 8 - 32 x 2½″ fil. hd., for mounting contactor	28989-42
50	Nut, ¼″ - 28 x ⅛″ tk. hex., for trunnion screw Fig. 51	1472-8
51	Trunnion Screw, ¼″ - 28, bearing for bar Fig. 48	49522-20

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism
MOTOR AND HOLD-CLEAR
DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
52	Lower Contact Complete, as shown, includes screw, support and contact	57444 Gr. 1
53	Stop, for contact Fig. 58	35470-48
54	Screw, No. 5 - 40 x ¾" fil. hd., with hex. nut and lock washer, for fastening stop and connector to bar Fig. 48	28876-4 54743-1 53029-26
55	Screw, No. 14-24, for spring Fig. 63	50313-3
56	Nut, No. 14-24 x 3/16" tk. hex., for terminal posts	42839-5
57	Connector Complete, for contactor	42760-105 Gr. 1
58	Contact Complete, for contactor, includes spring and contacts	13062-20 Gr. 2
59	Washer, for holding bar Fig. 62 in place	43083-6
60	Screw, No. 10-32 x 5/16" fil. hd., for washer Fig. 59	34456-5
61	Car Seal, for contactor	35285
62	Bar, for holding glass	57454
63	Spring, for bar Fig. 48	586-133
64	Nut, ⅛" - 56 x ⅛" tk. hex., for rod Fig. 66	12680-5
65	Glass, only, for contactor	56061-13
66	Rod Complete, includes stud, for operating contactor	57251 Gr. 2
67	Plate with stud, for contacts	15865 Gr. 1
68	Nut, No. 10-32 hex., for contacts	40796

WESTERN RAILROAD SUPPLY COMPANY

Type B Crossing Gate Mechanism

MOTOR AND HOLD-CLEAR DETAIL PARTS

Drawing references are shown for convenience in checking shipping lists and invoices

Fig. No.	Description	Drawing Reference
	Order by plate, figure number and description	
69	Contact, only	42799-7 Gr. 16
70	Yoke, as shown, for cores	48844-2
71	Screw, 5/16" - 24 x 7/8" hex. hd., with lock washer, for fastening cores Fig. 72 to yoke, Fig. 70	3440-20 53029-5
72	Core Complete, for magnet, includes cap and pin	49022-3 Gr. 1
73	Lock washer, bent-up, for nut Fig. 64	1601-151

W
RRS

Section

H

Signs

WESTERN RAILROAD SUPPLY COMPANY

MANUFACTURERS

General Offices and Factory
2360 South Ashland Avenue
Chicago, Illinois

●

District Offices in

New York, N. Y.
Denver, Colo.
St. Louis, Mo.
Cleveland, Ohio
Houston, Tex.

Printed in U. S. A.

1937

GENERAL INFORMATION

THE Western Railroad Supply Company is fully equipped to furnish any kind of cast iron, reflector lens, or plain embossed sign. A few general types are shown in this catalog section, but particular requirements and specifications of design and color combinations can be met. These signs can be furnished for all types of mounting on pipe posts, wooden posts, iron posts, concrete posts, or flat surfaces as specified.

WRRSCO cast iron signs are painted with highest quality paint, including a coating of red primer, to insure against rust and discoloration from the elements. The letters and edges of cast iron signs are reinforced and raised to provide greater visibility and make for easier repainting.

WRRSCO reflector lens signs are available in great variety to meet any requirement. Although only a few are shown in this catalog, we are certain our line can answer your sign problem. Due to the wide variety of specifications on arrows, grade markers, speed zone signs, letters, and figures, these types of reflectorized signs are not illustrated in this catalog section but are available if complete specifications are included with order. Reflector lens signs are available in porcelain or baked enamel with both front entrance and rear entrance lenses. Any color combination of background and reflector lens can be furnished. Our twenty years of experience in this field is your guarantee that our line of reflector lens signs is the best available.

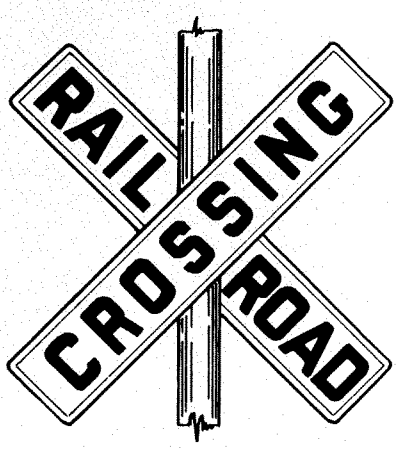
Our assortment of plain embossed signs, only a few of which are shown, is wide enough in scope to meet all railroad, state, and federal standards.

The Western Railroad Supply Company has a complete line of illuminated signs reading DANGER, STOP, NO LEFT TURN, NO RIGHT TURN, etc. These signs are shown in another catalog section which is available on request.

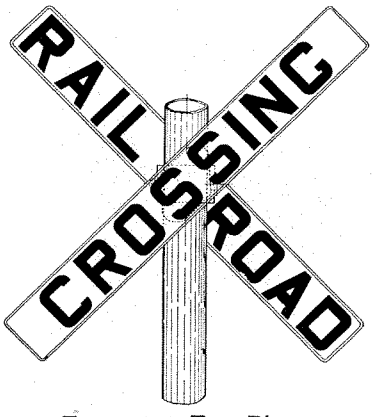
WESTERN RAILROAD SUPPLY COMPANY

Railroad Crossing Signs

CAST IRON



Type 3320 Two-Piece



Type 3301 Two-Piece
70° or 90° Mounting

Type 3320 RAILROAD CROSSING Sign is a two-piece cast iron sign designed in accordance with A.A.R. specifications. It has reinforced edges and raised letters on both sides of each blade.

Dimensions: Each cross member, 4′ long by 9″ wide; letters, 5½″ high with $\frac{15}{16}$″ stroke.

Painting: Black letters on white background is standard, but other painting schemes can be furnished.

Mounting: Adaptor clamps are furnished for 90° angle mounting on 3½″, 4″, or 5″ pipe, as specified.

Type 3301 RAILROAD CROSSING Sign is a two-piece cast iron sign of design similar to Type 3320 except the blade is not as wide.

Dimensions: Each cross member, 4′ long by 6″ wide; letters, 5″ high with 1″ stroke.

Painting: Black letters on white background is standard, but other painting schemes can be furnished.

Mounting: Adaptor clamps are furnished for 90° or 70° mounting on 3½″, 4″ or 5″ I.D. pipe, as specified.

ORDERING REFERENCE

Specify Plate Number H10, Reference Number and Description

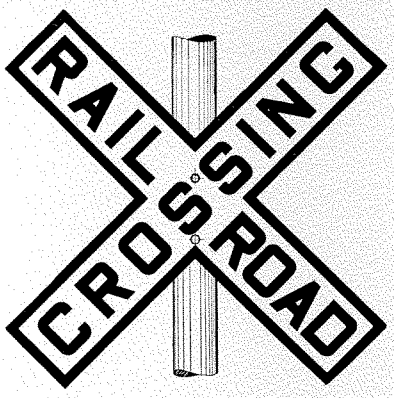
Ref. No.	Description	Piece No.
1	Type 3320 Crossing Sign complete for mounting on 3½″ I.D. pipe post	3320–13
2	Type 3320 Crossing Sign complete for mounting on 4″ I.D. pipe post	3320–14
3	Type 3320 Crossing Sign complete for mounting on 5″ I.D. pipe post	3320–15
4	Cross member only for Type 3320 Sign	3320–1
5	Type 3301 Crossing Sign complete for 90° mounting on 3½″ I.D. pipe post	3301–13
6	Type 3301 Crossing Sign complete for 90° mounting on 4″ I.D. pipe post	3301–14
7	Type 3301 Crossing Sign complete for 90° mounting on 5″ I.D. pipe post	3301–15
8	Type 3301 Crossing Sign complete for 70° mounting on 3½″ I.D. pipe post	3301–23
9	Type 3301 Crossing Sign complete for 70° mounting on 4″ I.D. pipe post	3301–24
10	Type 3301 Crossing Sign complete for 70° mounting on 5″ I.D. pipe post	3301–25
11	Cross member only, for Type 3301 sign	3301
12	Adapter clamp only for Type 3320 Sign	3320–2
13	Adapter clamp only for Type 3301 Sign (Specify angle of mounting)	Dwg. 3302

WESTERN RAILROAD SUPPLY COMPANY

Railroad Crossing Signs

Type 3304—One-Piece Cast Iron

Type 3306—Two-Piece Enameled



Type 3304 is a one-piece cast iron sign reading RAILROAD CROSSING on only one side. It has raised letters and borders.

Dimensions: Cross arm, 4′ long by 9″ wide; letters, 5″ high with 1″ stroke, 1″ border.

Painting: Black letters and border on white background is standard, but other painting schemes can be furnished; rear painted black.

Mounting: Adaptor clamps are furnished for mounting on 3½″, 4″ or 5″ I. D. pipe post, as specified.

Type 3306 is a two-piece sign identical in appearance and size with the Type 3304 Cast Iron Sign but is vitreous enamel finished.

ORDERING REFERENCE

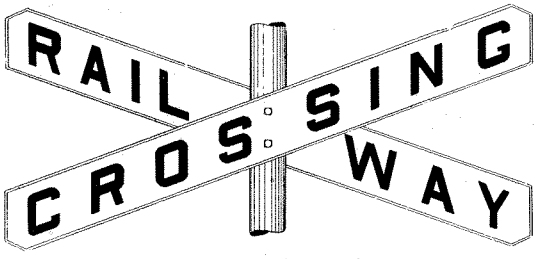
Specify Plate Number H12, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 3304 Crossing Sign for mounting on 3½″ I.D. pipe post	3304–13
2	Type 3304 Crossing Sign for mounting on 4″ I.D. pipe post	3304–14
3	Type 3304 Crossing Sign for mounting on 5″ I.D. pipe post	3304–15
4	Type 3306 Crossing Sign for mounting on 3½″ I.D. pipe post	3306–13
5	Type 3306 Crossing Sign for mounting on 4″ I.D. pipe post	3306–14
6	Type 3306 Crossing Sign for mounting on 5″ I.D. pipe post	3306–15
7	Adaptor clamp only for Type 3304 Signs (2 required per sign)	705-C
8	U-Bolt complete with nuts and washers for Type 3304 Signs (Specify inside diameter of pipe)	
9	Adapter clamp only for Type 3306 Signs	3310
10	U-Bolt complete with nuts and washers for Type 3306 Sign (Specify inside diameter of pipe)	

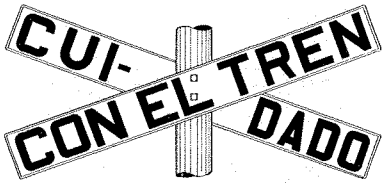
WESTERN RAILROAD SUPPLY COMPANY

Crossing Signs

CAST IRON



Type 2007-10 Two-Piece



Typical Crossing Sign With Foreign Lettering

The Western Railroad Supply Company can manufacture cast iron crossing signs to meet particular requirements and specifications.

Type 2007-10 RAILWAY CROSSING Sign is a two-piece cast iron sign designed for use where the word Railway is preferred to Railroad. Lettering is raised on both sides and edges are reinforced.

Dimensions: Overall when mounted, 5' 8″; each cross member, 6′ 2¼″ long by 8″ wide; letters, 5″ high with 1″ stroke.

Painting: Black letters on white background is standard, but other painting schemes can be furnished. Each blade is double faced.

Mounting: Adaptor clamps are furnished for 70° mounting on 3½″, 4″, or 5″ I.D. pipe post, as specified.

Cast iron crossing signs with foreign lettering can be furnished to meet any specifications. When ordering include prints or sketch. A typical crossing sign for use in foreign countries is shown above.

ORDERING REFERENCE

Specify Plate Number H14, Reference Number and Description

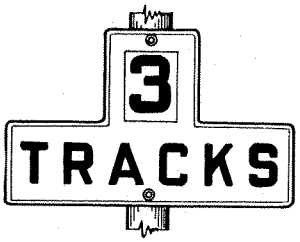
Ref. No.	Description	Piece No.
1	Type 2007-10 Crossing Sign complete for mounting on 3½″ I.D. pipe post.	2007–12
2	Type 2007-10 Crossing Sign complete for mounting on 4″ I.D. pipe post...	2007–10
3	Type 2007-10 Crossing Sign complete for mounting on 5″ I.D. pipe post...	2007–11
4	Cross member only for Type 2007-10 Sign.....	2007–1
5	Adaptor clamp only.....	873–1
6	U-Bolt complete with nuts and washer (Specify inside diameter of pipe)...	

WESTERN RAILROAD SUPPLY COMPANY

Cast Iron Signs

Type 3315

Type 3316



Type 16442

Type 3315 DANGER Sign is a cast iron sign with wording on one side only.

Dimensions: 33″ long by 9″ wide; 1″ border; letters, 5″ high with 1″ stroke.

Painting: Black letters and border on white background is standard, but other painting schemes can be furnished.

Mounting: Lag screws are furnished for mounting against flat surfaces; or adaptor clamps are furnished for mounting on 3½″, 4″ or 5″ I.D. pipe post as specified.

Type 3316 sign can be furnished reading TWO, THREE or any other number of tracks. It calls attention to the fact that there is more than a single track at a crossing.

Dimensions: 9″ wide; length variable; 1″ border; letters, 5″ high with 1″ stroke.

Painting: Black letters and border on white background is standard, but other painting schemes can be furnished.

Mounting: Adaptor clamps are furnished for mounting on 3½″, 4″ or 5″ I.D. pipe post as specified.

Note: Specify number desired on sign; otherwise TWO will be furnished.

Type 16442 Multiple Track Sign is a cast iron sign designed in accordance with A.A.R. specifications.

Dimensions: 2′ 3¼″ wide by 1′ 5″ high; word TRACK in letters 4″ high with $\frac{11}{16}$″ stroke; numeral 5½″ high with $\frac{15}{16}$″ stroke.

Painting: Black letters and numeral on white background.

Mounting: Adaptor clamps are furnished for mounting on 3½″, 4″ or 5″ I.D. pipe post as specified.

ORDERING REFERENCE

Specify Plate Number H16, Reference Number and Description

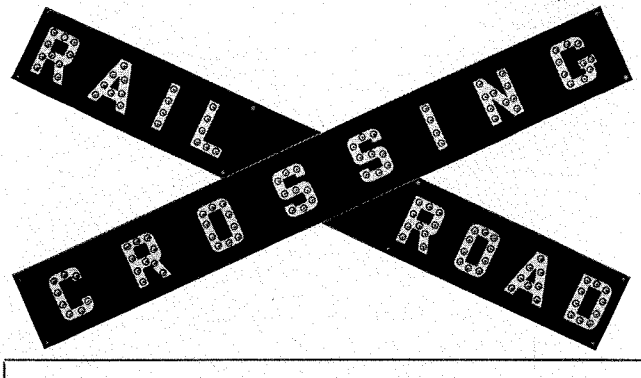
Ref. No.	Description	Piece No.
1	Type 3315 DANGER Sign for mounting on flat surface	3315–12
2	Type 3315 DANGER Sign for mounting on 3½″ I.D. pipe post	3315–13
3	Type 3315 DANGER Sign for mounting on 4″ I.D. pipe post	3315–14
4	Type 3315 DANGER Sign for mounting on 5″ I.D. pipe post	3315–15
5	Type 3316 Sign for mounting on 3½″ pipe post (Specify number)	3316–13
6	Type 3316 Sign for mounting on 4″ I.D. pipe post (Specify number)	3316–14
7	Type 3316 Sign for mounting on 5″ I.D. pipe post (Specify number)	3316–15
8	Type 16442 Multiple Track Sign for mounting on 3½″ I.D. pipe post (Specify numeral)	16442–13
9	Type 16442 Multiple Track Sign for mounting on 4″ I.D. pipe post (Specify numeral))	16442–14
10	Type 16442 Multiple Track Sign for mounting on 5″ I.D. pipe post (Specify numeral)	16442–15
11	Adaptor clamp only	3364–1
12	U-Bolt complete with nuts and washers (Specify inside diameter of pipe)	

Railroad Crossing Signs

REFLECTOR LENS TYPE

Type 3380 A.A.R. Standard, 4 foot, 90°; blade 4′ 0″ long by 9″ wide; 5½″ white letters on black background. Crystal reflector lenses.

Signs are furnished for mounting on 4″ I.D. pipe post unless otherwise specified.



Type 3344 A.A.R. Standard, 6 foot, 50°; blade 6′ 0″ long by 9″ wide; 5½″ white letters on black background. Crystal reflector lenses.

ORDERING REFERENCE

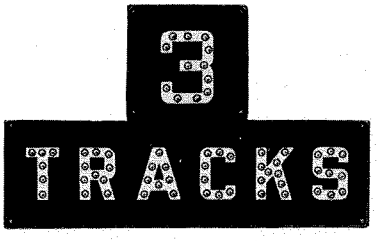
Specify Plate Number H25, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 3380 Crossing Sign (Baked enamel finish with rear entrance lenses held in place by flat intermediate plate)	3380–2
2	Type 3380 Crossing Sign (Porcelain enamel finish with front entrance lenses mounted in front plate)	3380–3
3	Type 3380 Crossing Sign (Porcelain enamel front plate. Baked enamel back and flat intermediate plates with rear entrance lenses)	3380–5
4	Type 3344 Crossing Sign (Baked enamel finish with rear entrance lenses held in place by flat intermediate plate)	3344–2
5	Type 3344 Crossing Sign (Porcelain enamel finish with front entrance lenses mounted in front plate)	3344–3
6	Type 3344 Crossing Sign (Porcelain enamel front plate. Baked enamel back and flat intermediate plates with rear entrance lenses)	3344–5
7	Adaptor clamp only	3364–1
8	U-Bolt complete with nuts and washers	

WESTERN RAILROAD SUPPLY COMPANY

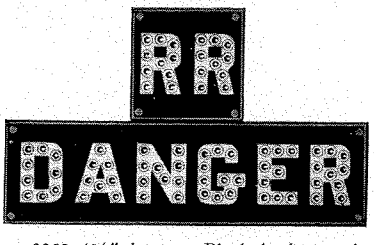
Reflector Lens Signs

Type 3366 Word STOP in 5½" letters, others 4". Size 25½" wide, 22½" high. White letters, black background, crystal reflector lenses.

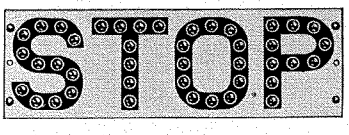


Type 3368 4" letters, 5½" numeral. Size 27¼" by 16½", white letters, black background. Crystal reflector lenses.

Type 3389 Black background, red 4½" letters. Red reflector lenses. Size 8" by 27¼".



Type 3369 4½" letters. Black background. Red letters, red reflector lenses. Size 27¼" wide, 16½" high.



Type 3390 For Gate Arms. Black 5" letters. Yellow background. Red reflector lenses. Size 6" by 18".

Type 3384 Same as above except border is outlined with crystal lenses. Size 7" by 19".

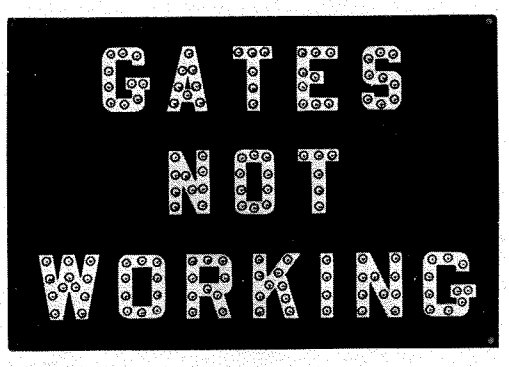
Mounting Specifications: These signs are furnished with adaptors and U-Bolts for mounting on 4" I.D. pipe post, except Type 3390 and 3384 STOP Signs which are equipped with two holes for mounting directly to gate arm. Other mounting requirements can be met if specified in order.

ORDERING REFERENCE

Specify Plate Number H30, Reference Number and Description

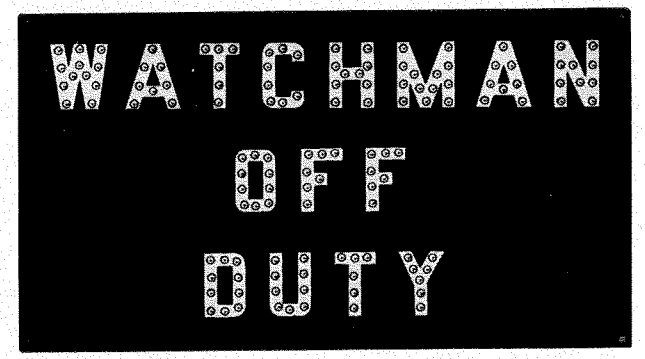
Ref. No.	Description	Piece No.
1	Type 3366 STOP ON RED SIGNAL Sign (Baked enamel finish with rear entrance lenses held in place by flat intermediate plate)	3366–2
2	Type 3366 STOP ON RED SIGNAL Sign (Porcelain enamel finish with front entrance lenses mounted in front plate)	3366–3
3	Type 3366 STOP ON RED SIGNAL Sign (Porcelain enamel front plate. Baked enamel back and flat intermediate plates with rear entrance lenses)	3366–5
4	Type 3369 RR DANGER Sign (Baked enamel with front entrance lenses mounted in front plate)	3369–4
5	Type 3368 Multiple Track Sign (Baked enamel with rear entrance lenses held in place by flat intermediate plate). (Specify numeral)	3368–2
6	Type 3368 Multiple Track Sign (Porcelain enamel with front entrance lenses mounted in front plate). (Specify numeral)	3368–3
7	Type 3368 Multiple Track Sign (Porcelain enamel front plate. Baked enamel back and flat intermediate plates with rear entrance lenses). (Specify numeral)	3368–5
8	Type 3389 DANGER Sign (Baked enamel finish with front entrance lenses mounted in front plate)	3389–4
9	Type 3390 STOP Sign (Baked enamel finish with front entrance lenses mounted in front plate)	3390–4
10	Type 3384 STOP Sign with red reflector lenses in word STOP and crystal lenses in border (Baked enamel finish)	3384
11	Adapter clamp only	3364–1
12	U-Bolt complete with nuts and washers	

Reflector Lens Signs



Type 3340 21″ by 2′ 6¾″; 4″ white letters, black background, crystal lenses. Provided with shield to conceal wording when gates are in service.

Type 3314 Folding Sign. Black letters and border on yellow background. Crystal lenses 24″ by 24″.



Type 3341 21″ by 3′ 1¾″; 4″ white letters, black background, crystal lenses. Provided with shield to conceal wording when watchman is on duty.

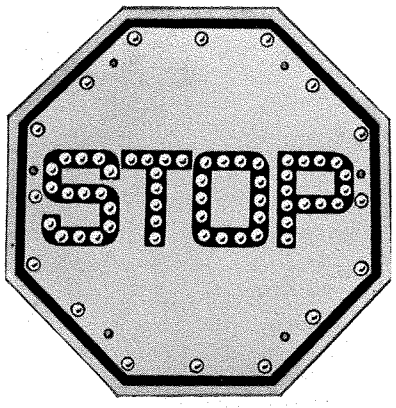
NOTE: These signs are furnished for mounting on 4″ I.D. pipe unless otherwise specified.

ORDERING REFERENCE

Specify Plate Number H35, Reference Number and Description

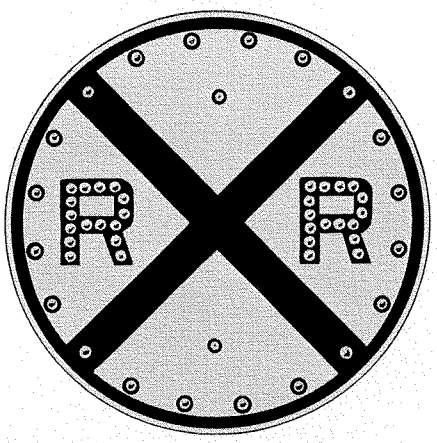
Ref. No.	Description	Dwg. Ref.
1	Type 3340 GATES NOT WORKING Sign (Baked enamel finish with rear entrance lenses held in place by flat intermediate plate. Embossed letters)	3340
2	Type 3340 GATES NOT WORKING Sign (Porcelain enamel front plate. Baked enamel back and flat intermediate plates with rear entrance lenses)	3340
3	Type 3314 Folding GATES NOT WORKING Sign (Baked enamel finish)	3314
4	Type 3341 WATCHMAN OFF DUTY Sign (Baked enamel finish with rear entrance lenses held in place by flat intermediate plate. Embossed letters)	3341
5	Type 3341 WATCHMAN OFF DUTY Sign (Porcelain enamel front plate. Baked enamel back and flat intermediate plates with rear entrance lenses)	3341
6	Adaptor clamp only	3364–1
7	U-Bolt complete with nuts and washers	

Reflector Lens Signs

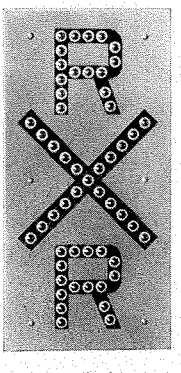


Type 3319 24″ across the flats, 6″ letter. Black letters and border on yellow background with crystal lenses in border, red lenses in letters. Embossed.

Type 3333 and 3336 Black letters and border on yellow background with crystal lenses. Type 3333 is 18″ square, with 6″ letter. Type 3336 is 24″ square, with 8″ letter. Embossed letters and border.



Type 3394 30″ diameter, with 6″ letter, black letters and cross on yellow background. Crystal lenses. Embossed letters, cross and border.



Type 3388 12″ by 24″, black letters and cross on yellow background with crystal lenses.

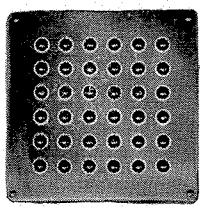
NOTE: These signs are furnished with holes for mounting with lag screws.

ORDERING REFERENCE

Specify Plate Number H40, Reference Number and Description

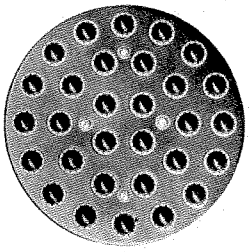
Ref. No.	Description	Piece No.
1	Type 3319 STOP Sign	3319
2	Type 3333 SLOW Sign	3333
3	Type 3336 SLOW Sign	3336
4	Type 3394 Approach Warning Sign	3394
5	Type 3388 Railroad Crossing Sign (R X R)	3388

Reflector Lens Markers

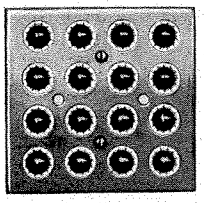


Type 3365 A.A.R. Standard. 11″ sq. 36 lenses. Colors as specified.
Yellow background and lenses unless otherwise specified.

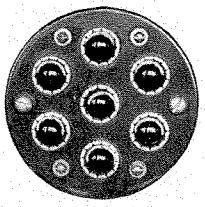
Type 3372 14″ sq. 49 lenses. Colors as specified.



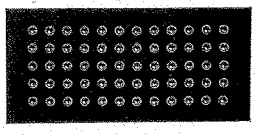
Type 3373 8″ dia. Furnished with red, yellow, amber, green or crystal lenses. Background any color specified. 30 lenses.



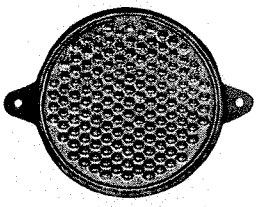
Type 3387 5¼″ sq. Colors as specified. 16 lenses. Ideal for gate arms. Weight 2 lbs.



Type 3351 4⅜″ dia. Weight 1 lb. Colors as specified. 7 lenses.



Type 3370 9″ by 19½″. Colors as specified. 60 lenses.



Type 3374 5⅜″ dia. reflecting surface. Weight 1¾ lbs. Red, green, or yellow as specified.

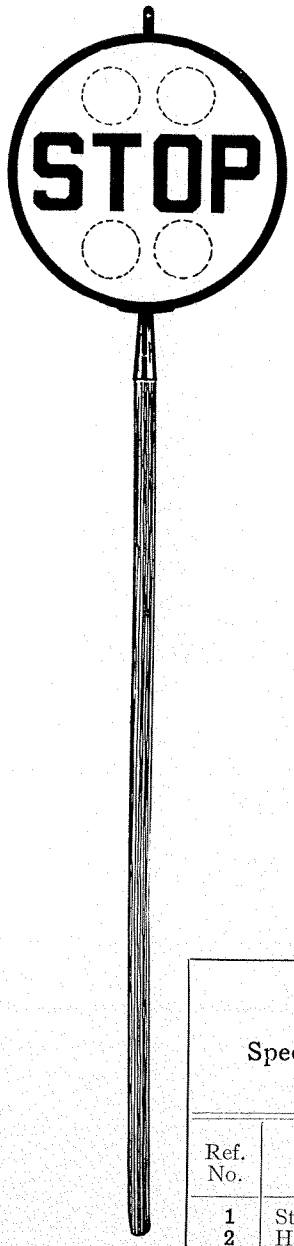
NOTE: Markers are furnished with holes for mounting with lag screws.

ORDERING REFERENCE

Specify Plate Number H45, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 3365 Marker (Specify color of background and color of lenses).....	3365
2	Type 3372 Marker (Specify color of background and color of lenses).....	3372
3	Type 3373 Marker (Specify color of background and color of lenses).....	3373
4	Type 3387 Marker (Specify color of background and color of lenses).....	3387
5	Type 3351 Marker (Specify color of background and color of lenses).....	3351
6	Type 3370 Marker (Specify color of background and color of lenses).....	3370
7	Type 3374 Cluster (Specify red, green or yellow).....	3374

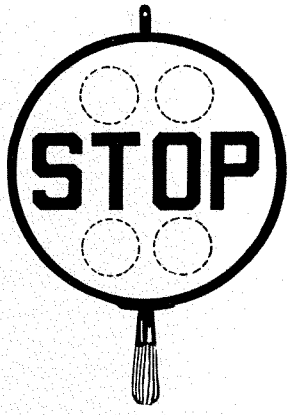
Crossing Watchman's Stop Banner



The banner is made of sheet steel 18 inches in diameter with a substantial wood handle or a 1¼ inch by 5 foot staff as specified. The disc is enameled white, and around the outer edge is a ½-inch black band, while across the center in 5-inch black letters is the word "STOP" which can be plainly read at a considerable distance. The enamel used is weatherproof and has great lasting qualities.

The marking is exactly the same on both sides so that the indication is given to traffic in both directions.

These banners are also made with holes punched as shown by the dotted lines. This is often desirable when the banners are to be used at crossings which are exposed to a great deal of wind and storm as the banners are more easily held in the proper position when the wind pressure is relieved.



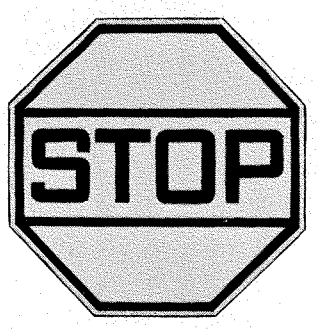
ORDERING REFERENCE

Specify Plate Number H50, Reference Number and Description

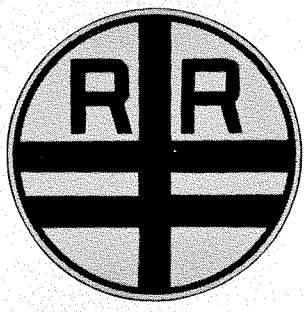
Ref. No.	Description	Piece No.
1	Stop banner with 5-foot staff	1742
2	Hand stop banner (short handle)	1746
3	Stop banner with 5-foot staff and with wind holes punched	1748
4	Hand stop banner (short handle) and with wind holes punched	1750

Plain Embossed Signs

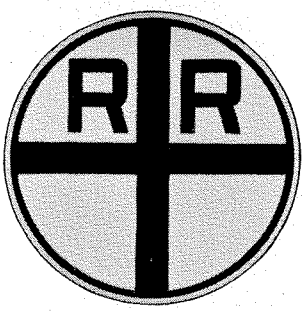
Type 3362 Plain embossed. 18" by 18" with 6" letters. Black on yellow.
Type 3363 Same except 24" by 24" with 8" letters.



Type 3324 Plain embossed STOP sign. 24" across the flats with 6" letters. Black on yellow.



Type 3323-2 Plain embossed sign for multiple track crossing. 24" diameter with 5" letters. Baked enamel finish. Black on yellow.
Type 3323-4 Same except porcelain enamel finish, not embossed.



Type 3323-1 Plain embossed sign for single track crossing. 24" diameter with 5" letters. Baked enamel finish. Black on yellow.
Type 3323-3 Same except porcelain enamel finish, not embossed.

NOTE: Signs are furnished with holes for mounting with lag screws.

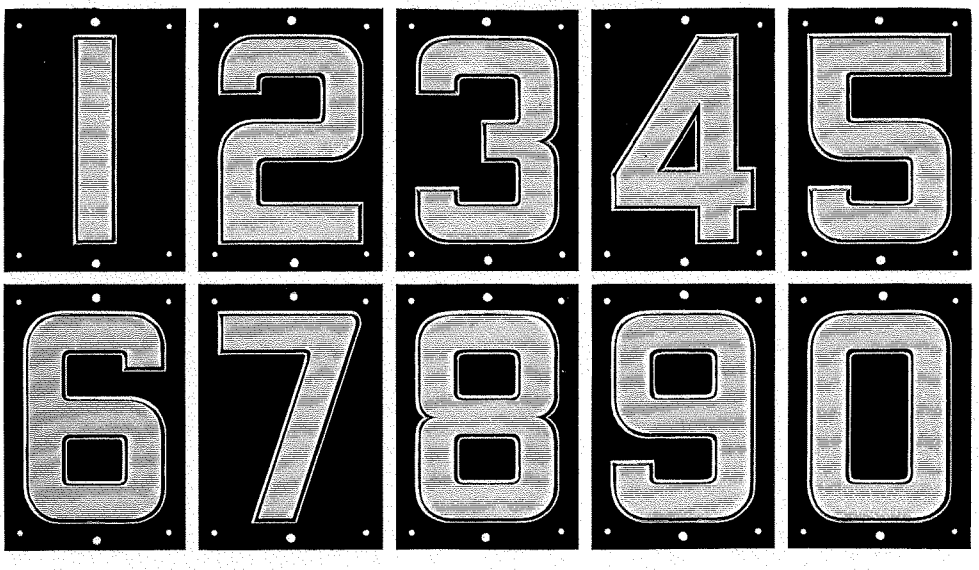
ORDERING REFERENCE

Specify Plate Number H-55, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 3362 SLOW Sign	3362
2	Type 3363 SLOW Sign	3363
3	Type 3324 STOP Sign	3324
4	Type 3323-2 Approach warning sign for multiple track crossing	3323–2
5	Type 3323-4 Approach warning sign for multiple track crossing	3323–4
6	Type 3323–1 Approach warning sign for single track crossing	3323–1
7	Type 3323-3 Approach warning sign for single track crossing	3323–3

WESTERN RAILROAD SUPPLY COMPANY

Premax Number Plates



Type 614 is punched with four corner holes for nailing to poles, etc.

Type 640 is similar to Type 614 but punched with two holes on the vertical center line for mounting on A.A.R. Signal Number Plate Brackets shown on Signal Section Drawing 1558-A.

This number plate was developed especially for railroads desiring a substantial economical plate using the block style figure. The figure is embossed on an aluminum plate of which the background is finished in black enamel—baked on. With this embossed aluminum style, it becomes impossible to chip, mar or impair visibility of the figure without destroying the entire plate.

The block style number is available in two gauges of aluminum plate, light gauge for Pole Marking Number Plates and heavy gauge for Signal Number Plates.

ORDERING REFERENCE

Specify Plate Number H60, Reference Number and Description and Figure Desired

Ref. No.	Description
1	Type 640 Heavy Gauge Signal Number Plates, 6-inch size.
2	Type 614 Light Gauge Pole Marking Numerals, 6-inch size.

Premax Embossed Aluminum Figures and Letters

½″ ¾″ 1″ 1½″ 2″

For bins and inside markings these sizes will be found adaptable. Far more legible, permanent and convenient than any other method of identification.

Used where long range legibility is not important, as in dating and record marking.

Where two companies use joint poles, 2″ numbers used by one and 3″ by the other make identification easy.

Premax Embossed Aluminum Individual Letters and Figures offer the utmost permanence and legibility in cut-out characters. Made of 99% pure aluminum rolled especially for this purpose, they will neither rust, tarnish nor corrode. Being perfectly smooth, they do not catch nor hold dirt. They will last a lifetime.

Premax Standard Embossed Aluminum Letters and Figures are made in the following sizes: 6″, 4″, 3″, 2″, 1½″, 1″, ¾″, ½″. There are also special designs for special purposes. The 4″ and 6″ sizes are widely used for Mile Post Markers, and other identification where easy reading is required at a considerable distance or from a rapidly moving vehicle.

ORDERING REFERENCE

Specify Plate Number H65, Reference Number, Description and Letter or Figure Desired

Ref. No.	Description
1	½″ Size Premax Embossed Aluminum Letter or Figure.
2	¾″ Size Premax Embossed Aluminum Letter or Figure.
3	1″ Size Premax Embossed Aluminum Letter or Figure.
4	1½″ Size Premax Embossed Aluminum Letter or Figure.
5	2″ Size Premax Embossed Aluminum Letter or Figure.
6	3″ Size Premax Embossed Aluminum Letter or Figure.
7	4″ Size Premax Embossed Aluminum Letter or Figure.
8	6″ Size Premax Embossed Aluminum Letter or Figure.

PRINTING PRODUCTS CORPORATION—CHICAGO 5-M-37

Section

K

WESTERN RAILROAD SUPPLY COMPANY

DIVISION OF WESTERN INDUSTRIES, INC.
MANUFACTURERS AND DISTRIBUTORS

General Offices and Factory

2742 West 36th Place

CHICAGO 32, ILLINOIS

District Offices in

New York 7	**Philadelphia 2**	**St. Louis 1**	**San Francisco 5**
Louisville 2	**St. Paul 1**	**Houston 23**	

Printed in U.S.A.

Issue of 1958

Section K

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INTRODUCTION

THE WESTERN RAILROAD SUPPLY arresters are of the rare-gas and spark gap type. Both types embody many good features for practical lightning protection. It is the Western Railroad Supply Company's contention that a lightning arrester should not only protect signal, telephone, and telegraph apparatus from induced lightning surges but to a certain degree within its capacity, from over voltages due to other causes. Therefore with the above as a goal, it has conducted and will continue to conduct, research to better the performance of its product.

The rare-gas arrester is the latest fundamental development, but considerable forward development has been made since this fundamental idea has been put into practical use. The rare-gas arrester, as a medium for overvoltage protection, found its first use in the railroad signal, telephone, and telegraph fields but since has found many other applications.

These arresters have been designed to fit readily most all existing arrester mountings, and some have specially designed mountings to facilitate ease of connection in small space limits.

Physical Characteristics of Rare-Gas Arresters

The cartridges themselves are well constructed in order to protect the arrester tubes from physical damage.

The wide spacing of the electrodes and the fact that one electrode is turned 90° to the other gives greater protection from grounds upon destruction from very heavy surge currents. The destruction of a sensitive arrester due to heavy surge currents does not necessarily mean the arrester is of no value, for it is well known that to construct a sensitive arrester necessitates limiting its range of current carrying power. Nevertheless for use on signal, telegraph and telephone circuits, we believe the rare-gas arrester entirely adequate for good protection on almost all surges encountered on these lines. In other words, the arrester is designed to fail on the side of safety which is good railroad practice.

The arrester being a sealed-off envelope prevents dirt and moisture or practically any weather condition from changing its characteristics.

Impulse Characteristics of Rare-Gas Arresters

The operating characteristics of these arresters are determined by the use of the Cathode-Ray Oscillograph. The oscillograph has made possible the study of arrester operation under impulse voltages in times much less than one millionth of a second. It is also possible to obtain the arrester characteristics while in operation, i. e., to determine the voltage drop across the arrester under impulse conditions.

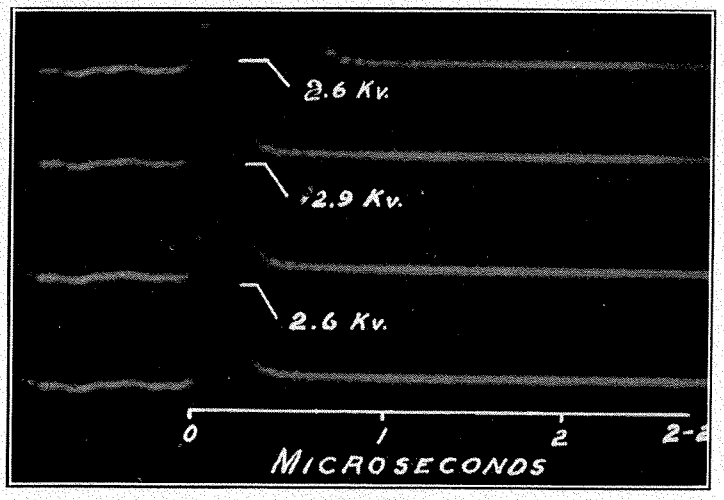


Figure No. 1

Figure No. 1 shows typical volt-time oscillograms of rare-gas arresters. Note the low breakdown values and negligible voltage drop a short time after breakdown. This is one of the main favorable characteristics of rare-gas performance.

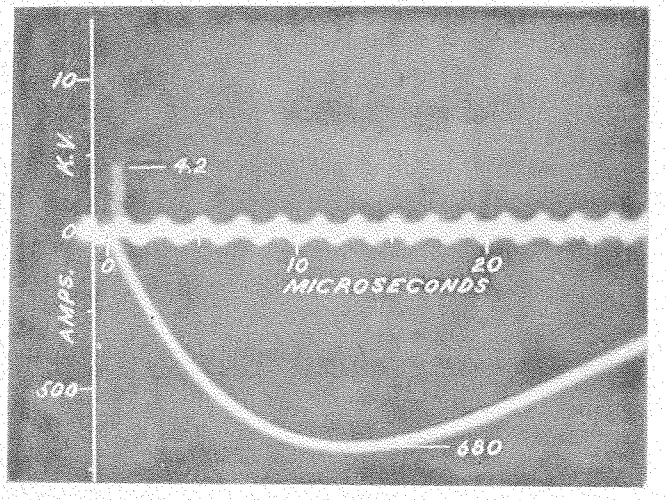


Figure No. 2

Figure No. 2 presents typical volt-time and ampere-time characteristics of these arresters. The ampere-time characteristics of these arresters are practically the same in each case except of course for the magnitude of the surge current.

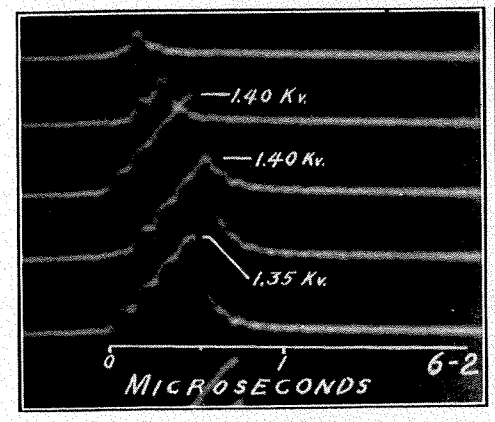


Figure No. 3

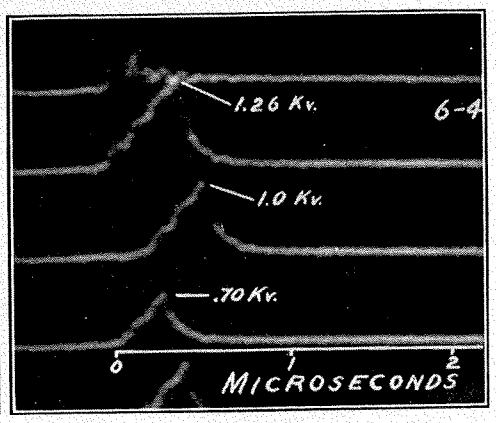


Figure No. 4

Figures Nos. 3 and 4 present additional typical volt-time oscillograms of the performance of the rare-gas arrester.

These oscillograms of the arrester operation, presented here, have been taken when the arresters were subjected to the A.A.R. test surge and the conditions specified under Signal Section Specification 52.

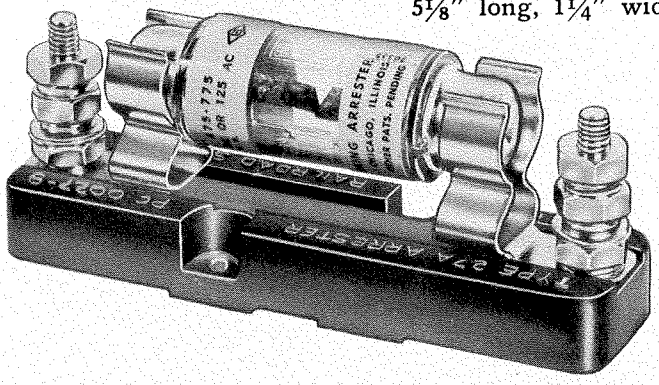
Rare-gas arresters are also ideal protection for telegraph and telephone service. In the subsequent pages there are shown many different types with a variety of different mountings for various classes of service.

Air-gap-choke-coil arresters and non-air-gap arresters shown herein have been designed with the experience of fifty years as a background and are well known by every railroad signalman in the world. Therefore they need no introductory statements.

WESTERN RAILROAD SUPPLY COMPANY

Types No. 27-A, No. 27-AB, No. 27-AHD and No. 27-AS Lightning Arresters

5⅛" long, 1¼" wide, 2¼" high



The base of this arrester is molded bakelite and carries two binding posts, one for line and instrument, and one for ground.

Type No. 27-AB arrester is equipped with auxiliary air-gap in multiple with the rare-gas cartridge.

Types Nos. 27-A and 27-AB arresters are for use on signal circuits of 30 volts D.C. or 125 volts A.C., maximum, and on communication circuits up to 450 volts D.C. Breakdown ranges: 200-400 volts and 475-775 volts at 60 cycles.

Type No. 27-AHD arrester is equipped with a heavy-duty rare-gas cartridge and is for use on signal circuits of 30 volts D.C. or 125 volts A.C. maximum, and on communication circuits up to 450 volts D.C. Breakdown range: 475-775 volts at 60 cycles.

Type No. 27-AS arrester is for use on signal circuits of 90 volts D.C. or 230 volts A.C. maximum.

Ground hook plates and wood screws are furnished with each arrester.

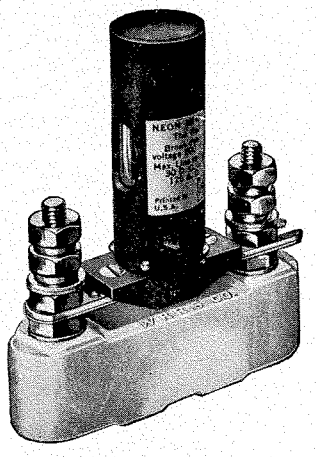
ORDERING REFERENCE

Specify Plate Number K11, Reference Number and Description

Ref. No.	Description	Piece No.
3	Type 27-A Arrester complete with rare-gas cartridge (Specify breakdown range)	0027A
3a	Type 27-AHD Heavy duty Arrester complete with heavy duty rare-gas cartridge	0027AHD
6	Rare-gas cartridge only, breakdown range 200-400 Volts (For ref. 3 & 11)	0027-1Y
6a	Rare-gas cartridge only, breakdown range 475-775 Volts (For ref. 3 & 11)	0027-1G
6b	Heavy duty rare-gas cartridge only, breakdown range 475-775 Volts (For ref. 3a.)	0027-1GHD
7	Bakelite base complete less rare-gas cartridge (For ref. 3, 3a & 13)	0027-10
8	Ground hook plate	0027-15
9	Cartridge clip	0027-8A
10	Bakelite base only	0027-9
11	Type 27-AB Arrester complete with spark-gap plates and rare-gas cartridge, 475-775 Volt breakdown	0027AB
12	Bakelite base complete with spark-gap plates, less rare-gas cartridge (For ref. 11)	0027-16
13	Type 27-AS Arrester complete with rare-gas cartridge, 475-775 Volt breakdown	0027AS
14	Type 27-AS rare-gas cartridge only (For ref. 12)	0027-19
15	Saw tooth spark-gap plate	0026-6

Types No. 275 and No. 275-TC Lightning Arresters

3⅜" long, 1" wide, 4 3/16" high



These types of rare-gas arresters are arranged for mounting on A.A.R. porcelain terminals and may therefore be banked on 1" centers. The mounting unit is so designed that it may be mounted on one terminal, as illustrated, or on the diagonally opposite binding posts of two terminals mounted side by side on 1" centers.

The cartridge plugs into the mounting unit, thus permitting easy removal for inspection or test or when high voltage megger line tests are being made.

The Type 275 arrester has break-down range of 200-400 or 475-775 volts at 60 cycles and is intended for use on signal circuits of 30 volts D.C. or 125 volts A.C., maximum, and on communication circuits up to 450 volts D.C.

The Type 275-TC is a special, low break-down, arrester intended for the protection of low voltage lamp filaments. It should be mounted in the lamp housing and connected in multiple with the lamp to be protected. Recommended for the protection of lamps up to 13.5 volts.

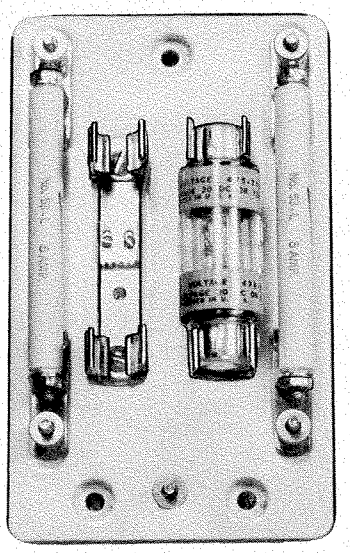
The A.A.R. porcelain terminal is furnished with references No. 1 and No. 2 unless otherwise specified. Wood screws for mounting are furnished with each complete arrester.

ORDERING REFERENCE
Specify Plate Number K13, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type No. 275 Arrester complete with rare-gas cartridge, 200-400 v.b.d.	0275-1
2	Type No. 275 Arrester complete with rare-gas cartridge, 475-775 v.b.d.	0275-2
2a	Type No. 275 Arrester complete with rare-gas cartridge, 475-775 v.b.d. Heavy Duty	0275-2HD
3	Type No. 275 Arrester complete with mounting strip and cartridge but less terminal block, 200-400 v.b.d.	0275-3
4	Type No. 275 Arrester complete with mounting strip and cartridge but less terminal block, 475-775 v.b.d.	0275-4
4a	Type No. 275 Arrester complete with mounting strip and cartridge but less terminal block, 475-775 v.b.d. Heavy Duty	0275-4HD
5	Type No. 275-TC Arrester complete with rare-gas cartridge	0275-30
6	Type No. 275-TC Arrester complete with mounting strip and cartridge but less terminal block	0275-31
7	Type No. 275 Rare-gas cartridge only, 200-400 v.b.d.	0275-6
8	Type No. 275 Rare-gas cartridge only, 475-775 v.b.d.	0275-7
8a	Type No. 275 Rare-gas cartridge only, 475-775 v.b.d. Heavy Duty	0275-7HD
9	Type No. 275-TC Rare-gas cartridge only	0275-27
10	Mounting strip only	0275-39

Type No. 40-B Lightning Arrester

6¾" long, 4" wide, 2½" high



This arrester is recommended for all telephone and train dispatching circuits, being designed to accommodate the usual two wires or pairs of such circuits.

The arrester is equipped with line fuses having a rated break-down for 2000 volts, complying with the requirements of The National Board of Fire Underwriters.

Type 40-B comes equipped with fuses having nutted ends.

For use on communication circuits up to 450 volts D.C.

Break-down range 475-775 volts at 60 cycles.

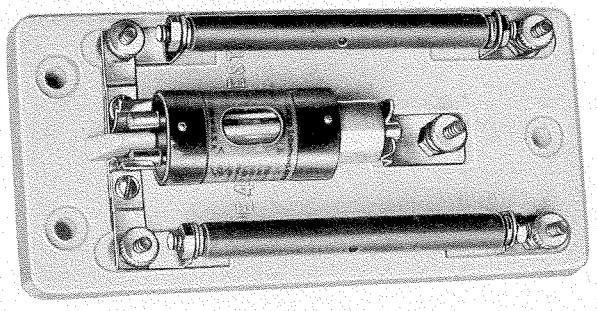
ORDERING REFERENCE

Specify Plate Number K31, Reference Number and Description

Ref. No.	Description	Piece No.
2	Type 40-B Arrester complete with rare-gas cartridge	0040–B
4	Rare-gas cartridge only	**0027-1**
5	Fuse (5 amp. fuses furnished unless other amperage is specified)	
6	Arrester base complete, only	0040–7
7	Cartridge clip only	0027–6
8	Spark gap plate	0026–6
9	Porcelain base only	0040–1
10	Fuse holder spring and clip (set of two each)	0440–2 0440–3 0440–4

Type No. 440 Arrester

7″ long, 3⅛″ wide, 2½″ high



The telephone field has long appreciated the advantages of the vacuum or gas tube lightning arresters for maintaining clear transmission and reducing the present high cost of maintenance. Until recently the cost of these arresters has prevented many telephone companies from adopting them as standard equipment.

Improved manufacturing facilities have enabled Western Railroad Supply Company to market this rare-gas type arrester at a price which compares favorably with the air-gap types now available.

The Type 440 Arrester is equipped with a triple-path cartridge and thus, by bringing the two-line wires into the same rare-gas chamber as the ground connection, the maximum degree of protection is secured; and, due to the fact that both sides of the line are in the same cartridge chamber, there is a decided shunting or balancing effect which equalizes both sides of the line whenever they become unbalanced due to static disturbances.

In addition, this arrangement of the three electrodes in one tube relieves either side of the line when subjected to abnormal conditions and immediately carries all such disturbances to ground.

In addition to the cartridge, this arrester is equipped with regulation telephone type fuses.

For use on communication circuits up to 450 volts D.C.

Break-down range 475-775 volts at 60 cycles.

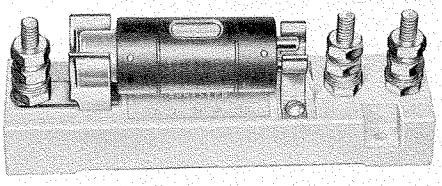
ORDERING REFERENCE

Specify Plate Number K40, Reference Number and Description

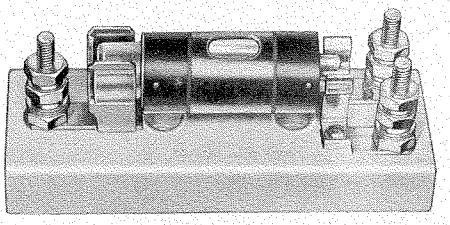
Ref. No.	Description	Piece No.
3	Type 440 Arrester complete with rare-gas cartridge and 5 ampere fuses	0440
6	Rare-gas cartridge only	0440–12
7	Porcelain base complete, less cartridge and fuses	0440–13
8	Fuse connection spring	0440–2
9	Fuse connection clips (one set of two)	0440–3 0440–4
10	Cartridge clip (ground end)	0440–8
11	Cartridge clip (line end)	0390–7
12	Binding post nut 8-32 thread	.....
13	5 ampere fuse, nutted ends	.....

Types No. 390 and 393 Triplepath Lightning Arrester

6¼" long, 1½" wide, 2" high—Type 390
5½" long, 2" wide, 2" high—Type 393



Type No. 390



Type No. 393

These triplepath lightning arresters have an improved triplepath rare-gas cartridge having one end equipped with two terminals for the two line wires. These terminals lead to separate electrodes in the tube chamber, each equally distant from a third electrode which is connected to ground. This combination effects a shunt between the line wires and the ground contacts for draining the line of abnormal electrical charges, whatever the source.

Type No. 390 Triplepath Lightning Arrester differs from Type No. 393 in that the two terminal posts on the No. 390 are set in tandem, whereas those on the No. 393 are parallel.

For use on signal circuits of 30 volts D.C. or 125 volts A.C., maximum, and on communication circuits up to 450 volts D.C.

Break-down ranges for types 390, 390S, 393, and 393S are 475 to 775 volts at 60 cycles.

Break-down ranges for types 390A, 390SA, and 393SA are 350 to 450 volts at 60 cycles.

Wood screws are furnished with each arrester.

Type No. 390S and 390SA triplepath Lightning Arresters are similar in design to the 390 and 390A with the addition of a spark plate which protects the cartridge tube from high voltage surges.

WESTERN RAILROAD SUPPLY COMPANY

ORDERING REFERENCE

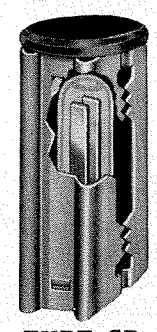
Specify Plate Number K60, Reference Number and Description

Ref. No.	Description	Piece No.
2	Type No. 390 Lightning Arrester complete with rare-gas cartridge, less Spark Plate. Break-down range 475-775 volts at 60 cycles	0390
2a	Type No. 390A Lightning Arrester complete with rare-gas cartridge, less Spark Plate. Break-down range 350-450 volts at 60 cycles	0390A
2b	Type No. 390S Lightning Arrester complete with rare-gas cartridge and Spark Plate. Break-down range 475-775 volts at 60 cycles	0390S
2c	Type No. 390SA Lightning Arrester complete with rare-gas cartridge and Spark Plate. Break-down range 350-450 volts at 60 cycles	0390SA
4	Rare-gas cartridge only. Break-down range 475-775 volts at 60 cycles	0390-5
4a	Rare-gas cartridge only. Break-down range 350-450 volts at 60 cycles	0390-5A
5	Cartridge clip only (ground end)	0027-6
6	Cartridge clip only (line end)	0390-7
7	Base complete only, less cartridge, for type No. 390 and 390-A Arresters	0390-10
7a	Base complete only, less cartridge, for type No. 390S and 390SA Arresters	0390-13
8	Type No. 393 Lightning Arrester complete with rare-gas cartridge, less Spark Plate. Break-down range 475-775 volts at 60 cycles	0393
8a	Type No. 393S Lightning Arrester complete with rare-gas cartridge and Spark Plate. Break-down range 475-775 volts at 60 cycles	0393S
9	Base complete only, less cartridge, for Type No. 393 arrester	0393-3
9a	Base complete only, less cartridge, for Type No. 393S arrester	0393-3S

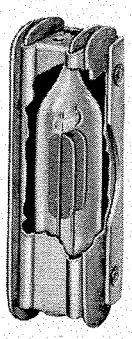
WESTERN RAILROAD SUPPLY COMPANY

Rare-Gas Lighting Arrester Units
Types "CD" and "MCD"

FOR COMMUNICATION CIRCUITS AND SIGNAL RELAY COIL SHUNTS



TYPE CD
Metal Shell with Insulated Button for Covered Protectors



TYPE MCD
Metal Slides, Mica Sides

In these types of arrester units we have concentrated in a very small space the advantages of the regular cartridge types, with only a small sacrifice in capacity, but retaining all of the efficiency, speed, reliability and other valuable features of operation. Their sizes (1⅜" long—⅜" wide) enables these units to be used to advantage where space is limited and, since they will fit into the standard telephone or telegraph protector spring mountings, they form an ideal replacement unit for the carbon mica or carbon porcelain types.

Arrester units provide four auxiliary air gaps, spaced at greater distance than the customary air gap. These auxiliary gaps will act as an added medium for overload. They will not function during the ordinary lightning inductive discharge or service.

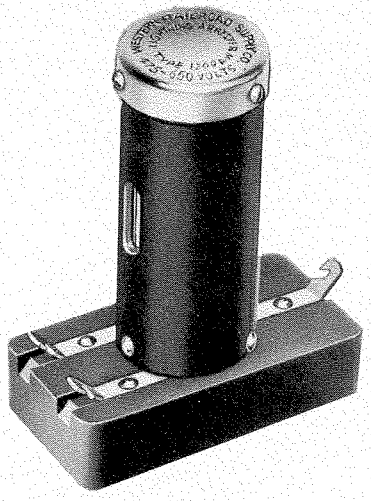
These units are furnished with break-down of 400 volts, minimum, for general use. Other standard break-down voltages are 200 volts, 600 volts and 800 volts, as indicated by number following the type letter in the "Piece No." column. These units can be supplied, when specified, with Thermostatic Electrodes which close the gap and ground the line, if discharge through the arrester is sustained.

ORDERING REFERENCE
Specify Plate Number K62, Reference Number and Description

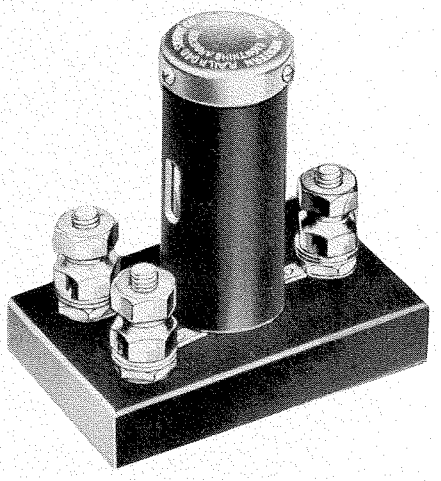
Ref. No.	Description	Piece No.
2	Type "CD" Rare-gas arrester unit	CD2-CD4-CD6 or CD8
4	Type "MCD" Rare-gas arrester unit	MCD-2, -4 -6 or -8

Suffix letter "P" designates Plain Electrode, as CD-2P.
Suffix letter "T" designates Thermostatic Electrode, as MCD-2T.

Types No. 1200DW and No. 1234DW Lightning Arrester



Type 1200DW for Communication Circuits
2⅝" long, 1 5/16" wide, 3 3/16" high



Type 1234DW for Signal Circuits
2⅞" long, 2" wide, 3⅜" high

The Types 1200DW and 1234DW rare-gas arresters are of the Triplepath, automatic-bridging type, affording protection for two lines to one ground and the equalizing effect of having both line and the ground electrodes in one rare-gas chamber. The cartridges of both types are identical.

Molded Bakelite bases are furnished; the one for the Type 1200DW being provided with springs for soldered connections, while the one for Type 1234DW has standard A.A.R. binding posts.

Type 1200DW is intended for use on communication circuits up to 500 volts D.C.

Type 1234DW is for use on signal circuits of 30 volts D.C. or 125 volts A.C. maximum. Line binding posts spaced ¾" centers.

Breakdown range of the cartridge, 475-650 volts D.C.

Standardization of cartridges for both communication and signal circuits can be accomplished by the adoption of these two types of arresters for the classes of service.

Wood screws for mounting are furnished with each arrester.

ORDERING REFERENCE

Specify Plate Number K63, Reference Number and Description

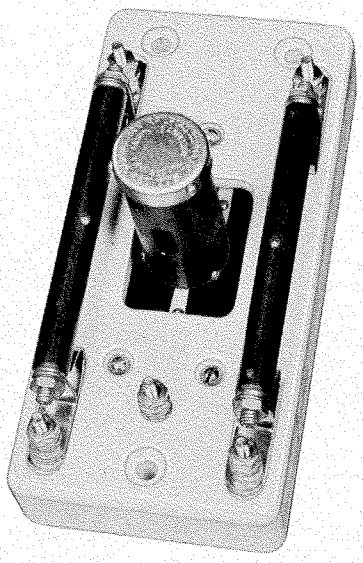
Ref. No.	Description	Piece No.
1	Type 1200DW Arrester complete with rare-gas cartridge	1200DW
3	Type 1234DW Arrester complete with rare-gas cartridge	1234DW
4	Rare-gas cartridge only	1200-1
5	Bakelite base complete, less cartridge, for type 1200DW	1200-2
7	Bakelite base complete, less cartridge, for type 1234DW	1234-2

WESTERN RAILROAD SUPPLY COMPANY

Type 1225 Lightning Arrester

FOR USE AS A TELEPHONE PROTECTOR

7″ Long, 3¼″ Wide, and 3 9/16″ High



Improved manufacturing facilities have made possible the marketing of this rare-gas type arrester at a price comparable with air-gap types now available.

The Type 1225 Arrester is provided with a triple-path cartridge and thus, by bringing the two line wires into the same rare-gas chamber as the ground connection, the maximum degree of protection is assured; and, due to the fact that both sides of the line are in the same cartridge chamber, there is a decided shunting or balancing effect which equalizes both sides of the line whenever they become unbalanced due to static disturbances.

In addition this arrangement of the three electrodes in the one tube relieves either side of the line when subjected to abnormal conditions and immediately carries all such disturbances to ground.

The arrester is also equipped with regulation telephone type fuses (7 amperes unless otherwise specified).

No asbestos sheet or separate fuse block is required for mounting.

For use on communication circuits up to 450 volts D. C.

Breakdown of the cartridge 475-650 volts D. C.

Three No. 10x1½″ blued wood screws are furnished for mounting.

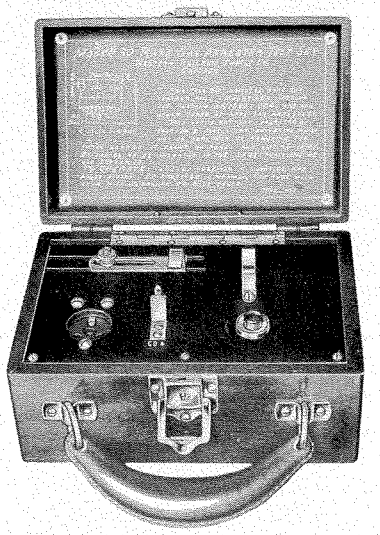
ORDERING REFERENCE
Specify Plate K64, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1225 Lightning Arrester Complete with Nut end fuses	1225-100
2	Rare-Gas Cartridge Only	1200-1
3	Fuse Only (7 Amperes Unless Otherwise Specified)	1225-105

Model 90 Test Set

FOR RARE-GAS ARRESTERS

9¾" long, 9" wide, 6½" high



Weight 15 lbs. with Batteries

This Test Set has several mountings designed to accommodate practically all of the rare-gas arrester cartridges shown in this catalogue section.

Its main function is to determine whether the arrester contains gas and is satisfactory for service. If, when tested with this set, the arrester glows, it indicates that gas is present and that in most cases the arrester is normal.

The main advantages of this set are that it is portable and the batteries supplying power for its operation can be easily obtained and installed.

The Model 90 Test Set is recommended for the testing of rare-gas arresters in the field or at any point where alternating current is not available.

ORDERING REFERENCE

Specify Plate Number K87, Reference Number and Description

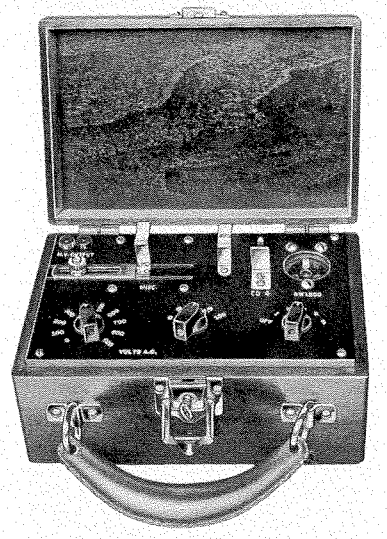
Ref. No.	Description	Piece No.
1	Model 90 Rare-gas arrester test set, complete	0090
2	Set of four batteries for arrester test set	

WESTERN RAILROAD SUPPLY COMPANY

Model 92 Test Set

FOR RARE-GAS ARRESTERS

9¾" long, 9" wide, 6½" high



Weight 8 lbs.

The Type 92 Test Set is primarily designed for operation in the laboratory or shop. It can also be used in the field where alternating current of 100-120 volts—60-100 cycles is available. The Type 92 Test Set, in addition to showing the presence of rare-gas in an arrester, can also be used to determine the breakdown voltage of each unit tested.

The breakdown voltage can be determined within 25 volts. The output voltage of the Type 92 Test Set is variable in steps of 25 volts from 25 volts up to and including 1000 volts by means of rotary selector switches. The data sheet which is included with the set gives the output voltages for varying input voltages. Test voltages are obtained from a self-contained tapped transformer.

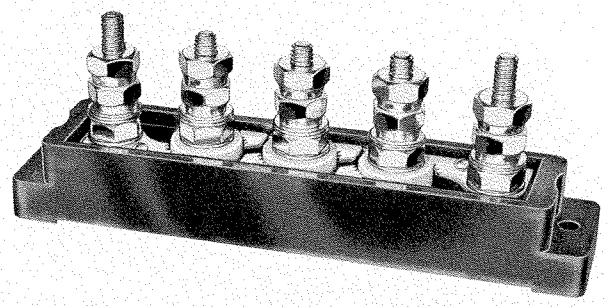
The mountings on the panel of this set will accommodate practically all arresters and cartridges shown in this catalogue. Separate output terminals are also provided to permit the use of the higher secondary voltages for other tests. The various mountings and the output terminals are connected to the adjustable secondary voltages by means of a rotary selector switch. Only the mountings in use are energized so that contact with other mountings will not shock the operator.

ORDERING REFERENCE

Specify Plate Number K88, Reference Number and Description

Ref. No.	Description	Piece No.
2	Model 92 Rare-gas arrester test set	0092

Type 345 Lightning Arrester



6″ Long x 1¼″ Wide x 2⅛″ High

The Type 345 Lightning Arrester incorporates the latest improvements in the line to rail and line to earth grounding type of arrester. It is sturdily built of molded bakelite with studs molded in position, insuring proper air gaps for the life of the arrester. It accommodates two line circuits and provides a means of discharging to both rails and ground. Due to its construction, circuit wires do not cross ground wires, and since there are three distinct paths to ground for each circuit, the danger of foreign substances shorting the gaps is minimized. The height of the 345 is considerably less than any other arrester of this type. All sparking points are copper to silicate of carbide.

This arrester may be furnished as a non-air-gap type if specified.

ORDERING REFERENCE
Specify Plate Number K108, Reference Number and Description

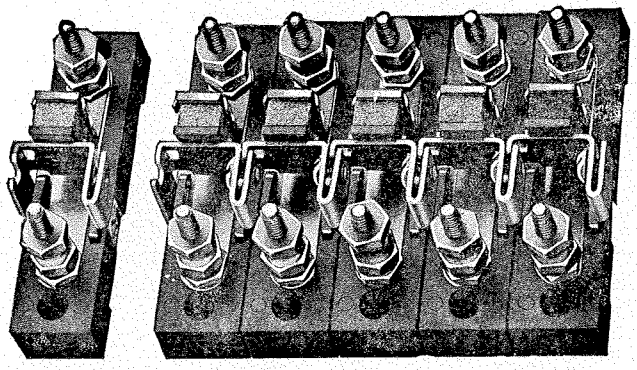
Ref. No.	Description	Piece No.
1	Type 345 Lightning Arrester Complete	0345-1
2	Spark Plate Only	0345-13
3	Silicate of Carbide Disc only	1021

WESTERN RAILROAD SUPPLY COMPANY

Type No. 20 Lightning Arrester

NON-AIR GAP

4″ long, 1″ wide, 2¼″ high



This arrester is recommended for all signal circuits carrying up to 60 volts A. C. or D. C.

Several million arresters of this type have been marketed with entire satisfaction to the purchaser. For the efficient protection of low voltage signal circuits this arrester is found well adapted. The arresters are arranged so as to interlock the ground connections when banked, providing separate terminals for line and instrument connections.

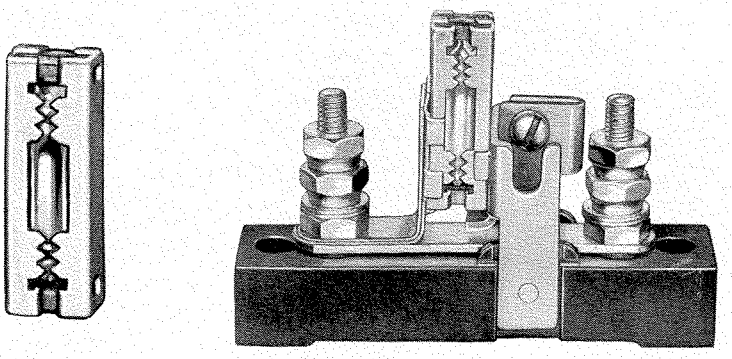
The silicate of carbide block is carbon faced to insure perfect connection and is capable of taking many successive discharges without change in character.

ORDERING REFERENCE

Specify Plate Number K110, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 20 arrester complete with mounting screws	0020
2	Binding post, complete, 1½″ long	1070-10
3	Moulded base only	0020-1
4	Upright brass punching	0020-2
5	Brass base plate	0020-5
6	Phosphor bronze reinforcing spring	0020-3
7	Spring holder for carbon-silicate of carbide block	0020-4
8	Carbon-silicate of carbide block	0330-6
9	¼″ round head brass ground plate screw(#10-32)	
10	¾″ long ground binding post with nuts and washers	0020-6

Types D-202 and D-204 Rare-Gas Cartridges for Type 20 Arrester Base



The Types D-202 and D-204 Rare-Gas Cartridges were especially designed to replace the carbon-silicate-of-carbide element in the Type No. 20 arrester. By use of these units the advantages of the rare-gas arrester can be available without the expense and labor of changing out the complete Type No. 20 unit. Type No. D-202 has a breakdown voltage of approximately 200 at 60 cycles. Type No. D-204 has a voltage breakdown of approximately 400 at 60 cycles.

ORDERING REFERENCE

Specify Plate Number K111, Reference Number and Description

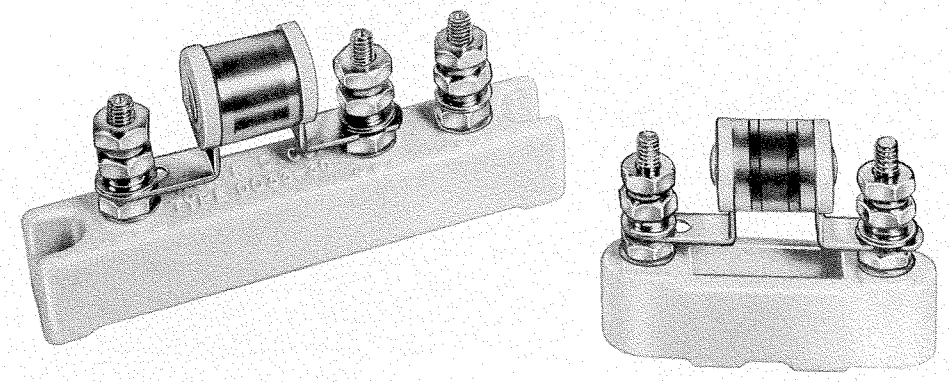
Ref. No.	Description	Piece No.
1	Type No. D-202 Rare-Gas Cartridge for Type No. 20 arrester with breakdown of approximately 200 volts.	D-202
2	Type No. D-204 Rare-Gas Cartridge for Type No. 20 arrester with breakdown of approximately 400 volts.	D-204

WESTERN RAILROAD SUPPLY COMPANY

Type No. 33 Lightning Arrester

ENCLOSED AIR-GAP

0033 = 3⅜" long, 1" wide, 2½" high
0033-30 = 5¼" long, 1" wide, 2¼" high



Type No. 33 provides an enclosed air-gap arrester mounted on an A.A.R. porcelain terminal, permitting them to be banked on 1" centers.

Two small air-gaps in series, with silicate of carbide electrodes, are enclosed in a clear plastic cylinder and molded isolantite end plates. The arrester is sensitive yet non-grounding.

For use on signal circuits up to 30 volts D.C. or 125 volts A.C., maximum.

Ground connecting plates and wood screws for mounting are furnished with each complete arrester.

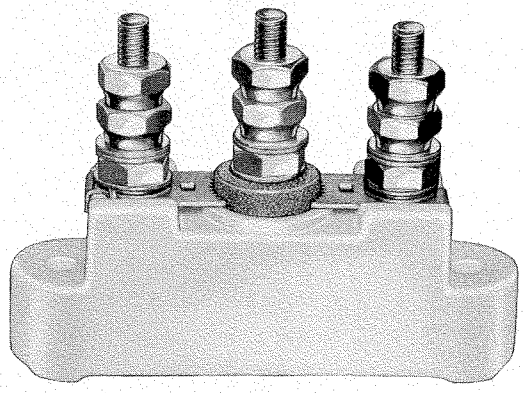
ORDERING REFERENCE
Specify Plate Number K112, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 33 Arrester complete with terminal block	0033
2	Type 33 Arrester unit only, less terminal block	0033-10
3	Ground connection plate only	0035-6
4	Type 33 Arrester complete with terminal block and separate ground binding post	0033-30

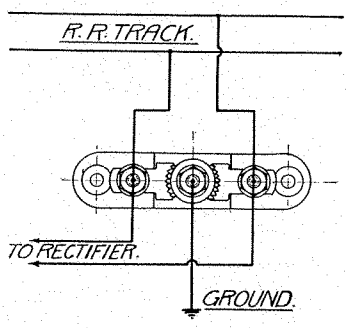
Type 110 Duplex Track Arrester

NON-AIR GAP

3⅞" long, 1" wide, 2⅞" high



Type 110 Arrester consists of a porcelain block on the top of which is mounted a silicate of carbide button. On both sides of this button are placed brass plates which make connection with two outside binding posts forming a non-air gap protective medium between the binding posts and the silicate of carbide button; this button is positioned by the ground binding post. The two outer binding posts are intended to be connected directly to the track as shown in diagram. This arrangement forms an economical and efficient medium of lightning protection having advantages of the regular lightning path to ground as well as the shunt feature combined. No choke coils are used in this combination.



ORDERING REFERENCE

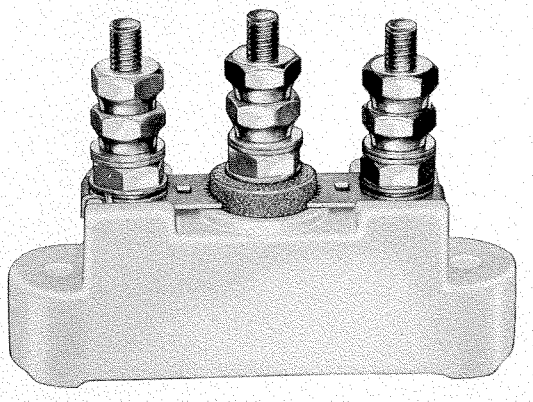
Specify Plate Number K113, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 110 arrester complete	0110
2	Silicate of carbide button	0105–7
3	Saw tooth plates	0105–3
4	A. A. R. binding post complete with nuts and washers	107010
5	Porcelain base only	0105–1

WESTERN RAILROAD SUPPLY COMPANY

Type No. 105 Lightning Arrester

3⅞" long, 1" wide, 2⅞" high



This arrester has already become one of the most popular of Railroad Signal types. In a very small space it combines all of the proven desirable protective mediums—carbon or silicate of carbide with choke coil of No. 12 wire.

The terminals of the choke coil are brought to the surface and are visible to inspection. All parts are made of heavy metal and are carefully adjusted —insuring real protection to your signal apparatus.

We call particular attention to the very small size of the base, being 3⅞" long by 1" wide, which makes it very adaptable to locations where available space for lightning protective apparatus is limited.

Unless otherwise specified, this arrester is furnished with air-gap between spark plates and silicate of carbide disc. When desired it is furnished as a non-air-gap type of arrester.

Wood screws and ground hook plates are furnished with each arrester.

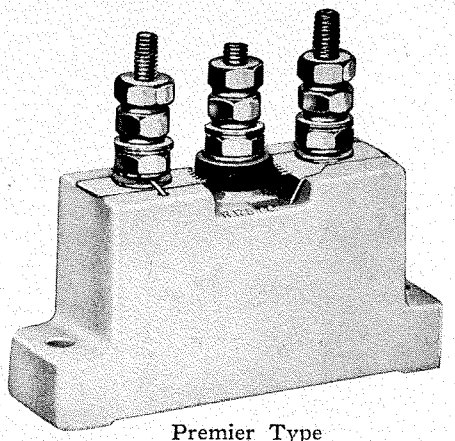
ORDERING REFERENCE

Specify Plate Number K116, Reference Number and Description

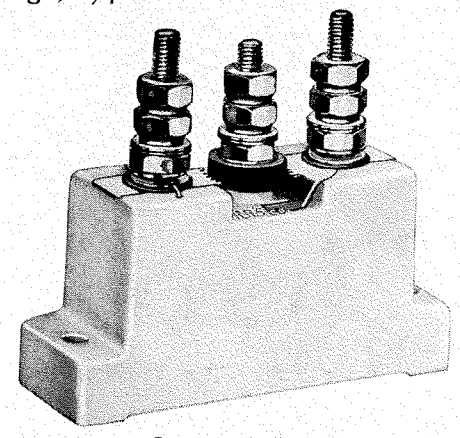
Ref. No.	Description	Piece No.
1	Type 105-B Arrester, complete (air-gap type silicate of carbide disc)	0105-B
1a	Type 105-C Arrester, complete (non-air-gap type with silicate of carbide disc)	0105-C
1b	Type 105-A—Arrester, complete (air-gap-type with carbon disc)	0105-A
2	Silicate of carbide disc, only (¾" diameter for type 105-B)	1021
2a	Silicate of carbide disc, only (13/16" diameter for type 105-C)	0105-7
3	Spark gap plates, only	0105-3
4	Ground hook plate, only	0035-6
6	Carbon disc, only (¾" diameter for type 105-A)	1086
7	Brass Bushing for carbon disc	1012-8

Type No. 6 Lightning Arrester

4⅛" long, 3¼" high, 1¼" wide



Premier Type



Quenched Gap Type

The carbon or silicate of carbide discs used are ¼" thick by ¾" in diameter and are of a special mechanical strength to eliminate the possibility of disintegration.

On the inside of the porcelain block are two recesses each containing a reactance coil in the shape of a helix. The upper end of each of these coils is connected to the post which holds the copper plates in place, while the lower end of the coils are connected together, thus placing the two coils in series. The design is such that there is a heavy wall of porcelain between each reactance coil and the center post, thus there is absolutely no danger of a spark occuring on the inside of the block.

After the reactance coils have been placed in position, the whole inner part of the block is completely filled with insulating compound.

Type No. 6 arrester is constructed upon a heavy porcelain containing block and is equipped with standard A. A. R. binding posts, nuts and washers. A copper strip for connecting ground posts, and wood screws for mounting are furnished.

ORDERING REFERENCE

Specify Plate Number K121, Reference Number and Description

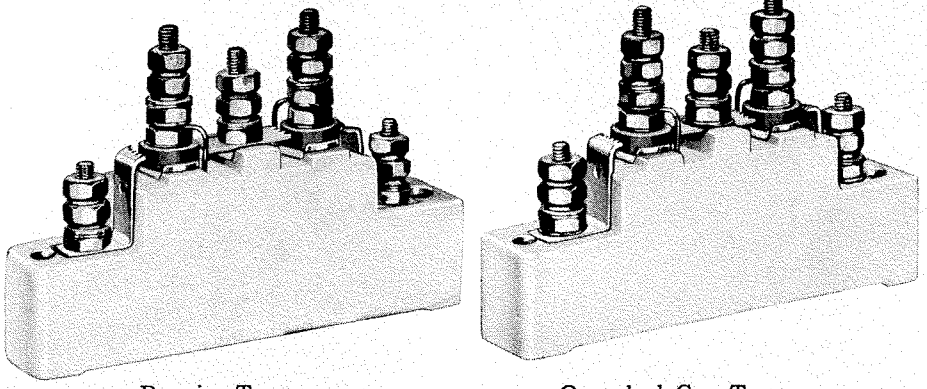
Ref. No.	Description	Specifications	Piece No.
1	Type 6-A Premier Arrester	With carbon disc	0006-1
2	Type 6-B Premier Arrester	With silicate of carbide disc	0006-2
3	Type 6-A Quenched Gap Arrester	With carbon disc	0006-3
4	Type 6-B Quenched Gap Arrester	With silicate of carbide disc	0006-4
4a	Type 6BX Premier Arrester	With silicate of carbide disc	0006-5
5	Carbon disc only		1086-1
6	Silicate of carbide disc only (for ref. 1 & 3)		1021
6a	Silicate of carbide disc only (for ref. 4a		1012-20
7	Spark plate only		1084
8	Ground connection plate only		1012-14
11	Bakelite Quench Gap Washer only		1012-18
12	Brass Bushing only for carbon disc		1012-8

Recesses filled with compound only when specified.

WESTERN RAILROAD SUPPLY COMPANY

Type No. 3 Lightning Arrester

1⅛" wide, 5⅞" long, 3⅜" high



Premier Type **Quenched Gap Type**

The rail grounding feature is incorporated in the No. 3 arrester in addition to the regular choke coil and spark gap construction of the type No. 6.

All posts are rigidly mounted on a porcelain block in such a manner that they are in a straight line, allowing the arrester to be made very narrow.

This arrester has five posts, as follows: Two for rail connections, one for artificial ground, one for line connection and one for instrument connection. All sparking points are copper to carbon or silicate of carbide. The discs used in these arresters are ¼" thick by ¾" diameter, and are of a special homogeneous grade, designed to eliminate the possibility of disintegration and to have great mechanical strength.

Type No. 3-A and No. 3-A Quenched Gap arresters have carbon discs on the line binding posts while types 3-B and 3-B Quenched Gap arresters are provided with silicate of carbide discs. These types are designed for protection of low voltage circuits. The Type No. 3-H arrester has carbon discs on the line posts and silicate of carbide discs on the three ground connection posts and is suitable for protection of 110 volt A. C. circuits.

The silicate of carbide discs on the ground binding posts increase the resistance between line and ground, without impeding the free passage of lightning surges, and therefore prevent the line current from flowing through when lightning or static discharges have established a path to ground.

Each arrester is furnished with three copper strips for connecting the arresters when they are banked, also wood screws for mounting are included.

ORDERING REFERENCE

Specify Plate Number K124, Reference Number and Description

Ref. No.	Description	Specifications	Piece No.
1	Type 3-A Premier Arrester	With carbon disc	0003-1
2	Type 3-B Premier Arrester	With silicate of carbide disc	0003-2
3	Type 3-A Quenched Gap Arrester	With carbon disc	0003-3
4	Type 3-B Quenched Gap Arrester	With silicate of carbide disc	0003-4
5	Type 3-H Arrester for A. C. circuits	(With carbon disc on line posts and silicate of carbide discs on ground posts)	0003-5
5a	Type 3-HB Arrester for 110 volt circuits	With silicate of carbide discs on all binding posts	0003-6
5b	Type 3-HBQ Quenched Gap Arrester for 110 volt circuits	With silicate of carbide discs on all binding posts	0003-7
6	Carbon disc only		1086
7	Silicate of carbide disc only		1021
8	Center spark plate complete only		1012-22
9	End spark plate only		1012-12
10	Ground connection plate only		1012-13
11	Bakelite Quench Gap Washer only		1012-18
12	Lead Cushion Washer only		1012-21
13	Brass Bushing only for carbon disc		1012-8

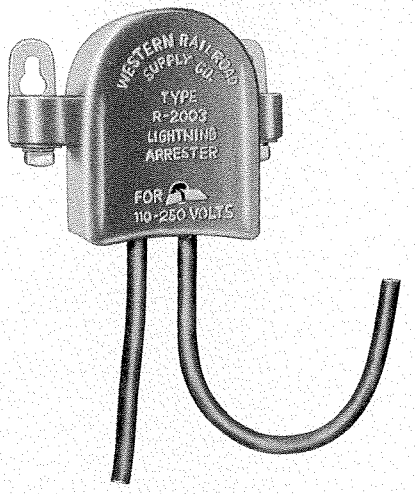
Recesses filled with compound only when specified.

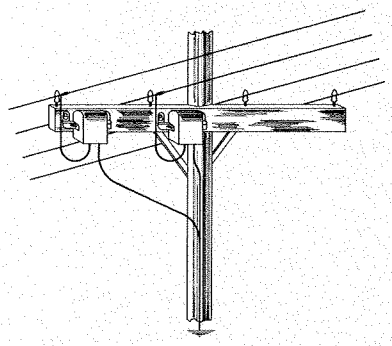
Memoranda

WESTERN RAILROAD SUPPLY COMPANY

Type R2003 Lightning Arrester

110-250 AND 440-750 VOLTS—A. C. OR D. C.





This arrester is extremely efficient owing to the fact that it will operate on a very close margin above the normal line voltage. It is of the valve type and provided with large surfaces over which repeated discharges may pass without affecting the operating characteristics of the arrester. This arrester may be used either as a protection between the line and ground or as a shunt across transformer or instrument terminals. Each arrester is tested in our laboratory before shipping to insure its functioning at the proper voltage. Provisions are made so this arrester may be connected on the cross-arm or pole proper without the danger of cracking the housing.

This arrester is made with dependability as the ultimate object. Notwithstanding the extremely high value of this product, the cost of the arrester is low and its installation will be found inexpensive compared with the results obtained.

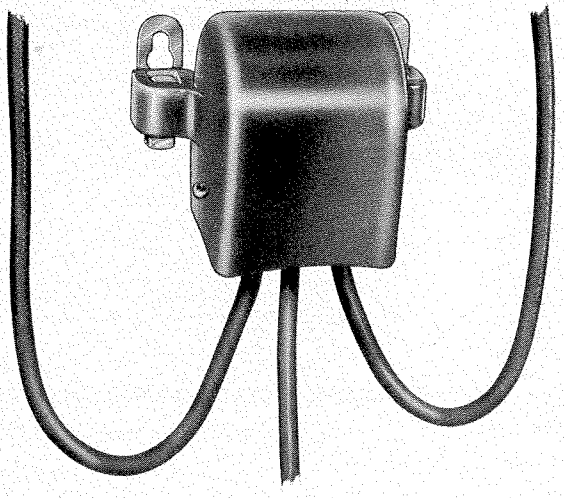
ORDERING REFERENCE

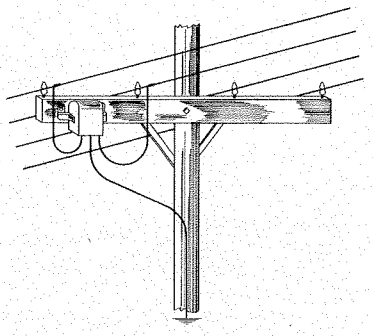
Specify Plate Number K162, Reference Number and Description

Ref. No.	Description	Line Voltage	Piece No.
1	Type R-2003 arrester, complete (18″ Leads)	440-750	2003-35
2	Type R-2003 arrester complete (36″ Leads)	440-750	2003-36
3	Type R-2003 arrester complete (18″ Leads)	110-250	2003-31
4	Type R-2003 arrester complete (36″ Leads)	110-250	2003-32
5	Type R-2003 arrester complete with "T" connector on line lead and clamp connector on ground lead (30″ Leads)	440-750	2003-37
6	Type R-2003 arrester complete with "T" connector on line lead and clamp connector on ground lead (30″ Leads)	110-250	2003-33

Type R2030 Lightning Arrester

110-250 AND 440-750 VOLTS—A. C. OR D. C.





Type R2030 Lightning Arrester is similar to Type R2003 shown on opposite page and the same desirable construction features and advantages are furnished. It is of the valve type and provided with large surfaces over which repeated discharges may pass without affecting the operating characteristics of the arrester.

Type R2030 differs from R2003 in that the three wire terminals of the arrester provide for two connections to line and one to ground. Thus, the obvious advantages of one arrester replacing two of the R2003 type and the conserving of cross-arm space, will be noted.

From the standpoint of service, efficiency and dependability, the Type R2030 Lightning Arrester is unsurpassed in its particular field of application.

ORDERING REFERENCE

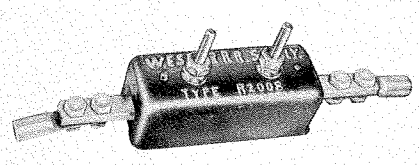
Specify Plate Number K165, Reference Number and Description

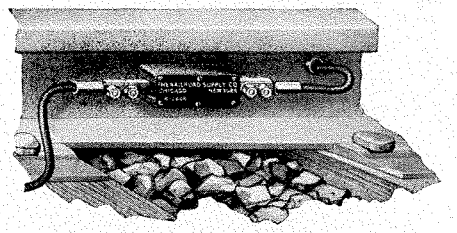
Ref. No.	Description	Line Voltage	Piece No.
1	Type R-2030 Arrester, complete (18″ Leads)	440-750	2030-35
2	Type R-2030 Arrester, complete (36″ Leads)	440-750	2030-36
3	Type R-2030 Arrester, complete (18″ Leads)	110-250	2030-31
4	Type R-2030 Arrester, complete (36″ Leads)	110-250	2030-32
5	Type R-2030 Arrester, complete with "T" connectors on line leads and clamp connector on ground lead (30″ Leads)	440-750	2030-37
6	Type R-2030 Arrester, complete with "T" connectors on line leads and clamp connector on ground lead (30″ Leads)	110-250	2030-33

WESTERN RAILROAD SUPPLY COMPANY

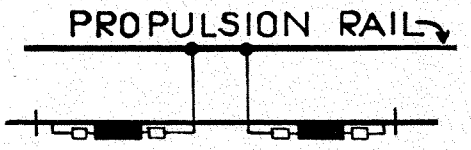
Rail Type Track Protector

FOR PROTECTING SIGNAL CIRCUITS CONNECTED TO RAILS IN ELECTRIFIED TERRITORY





Single Rail A. C. Track Protector



As applied to the rail

This rail protector has been perfected for the purpose of protecting signal apparatus where single rail A. C. track circuits are made use of in electrified sections and provides the breakdown from the insulated rail to the return rail should the trolley become broken and in falling make contact with the insulated rail—or should a crowbar fall across a third rail and the running rail. Lightning protection is also provided.

Without this protector, any short circuit to the rails will cause considerable trouble—breaking down the insulation in switch rods and insulated joints and passing through every available signal apparatus which will provide a partial return to the non-insulated rail.

By means of a rail protector an immediate breakdown results to by-path all of this return current and consequently knocks out the sub-station breaker as well as protecting all of the signal equipment.

Usually all of the paths available provide sufficient resistance in the return circuit so that insufficient current will flow to knock out the safety circuit breaker in the sub-station.

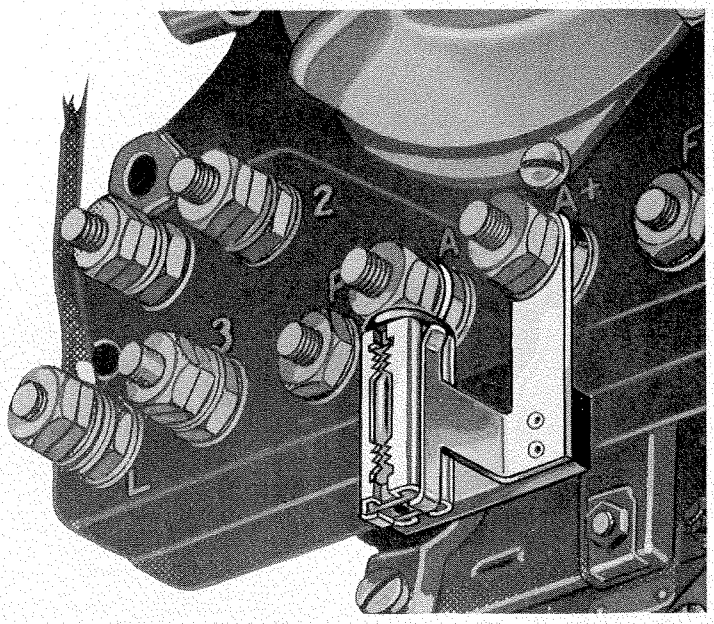
ORDERING REFERENCE

Specify Plate Number K170, Reference Number and Description

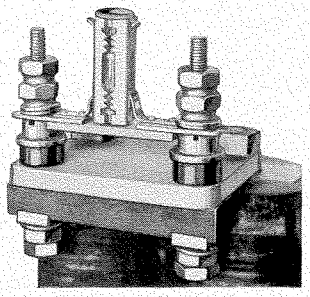
Ref. No.	Description	Piece No.
1	Type R-2008 Rail Type Track Protector, complete for 1500 volt propulsion	2008-11
2	Type R-2008 Rail Type Track Protector, complete for 600 volt propulsion..	2008-10
3	Type R-2008 Rail Type Track Protector, complete for 2400 volt propulsion	2008-11A

Memoranda

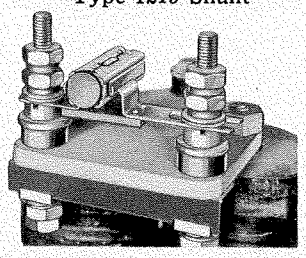
Rare-Gas Relay, Coil, and Searchlight Signal Shunts Types No. 1213, 1214, 1219, 1239, 1268 and 1269



Type No. 1214 Shunt mounted on searchlight signal



Type 1219 Shunt



Type 1239 Shunt

Type No. 1214 shunt consists of a CD rare gas arrester held in a horizontal position on a base designed for mounting on searchlight signals with posts spaced one inch center to center.

Type No. 1219 shunt consists of a CD arrester held in a vertical position on a base designed to fit posts spaced from 1⅞" to 2⅜" C.C.

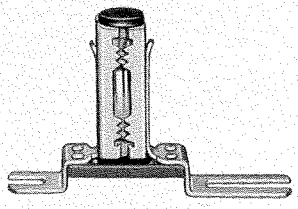
Type No. 1239 shunt consists of a CD arrester held in a horizontal position on a base designed for mounting on posts spaced from 1⅞" to 2⅜" C.C.

(Continued on following page)

Rare-Gas Relay, Coil, and Searchlight Signal Shunts

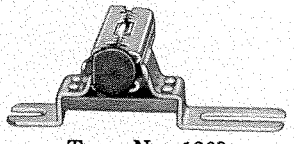
Types Nos. 1213, 1214, 1219, 1239, 1268, and 1269

(Continued)



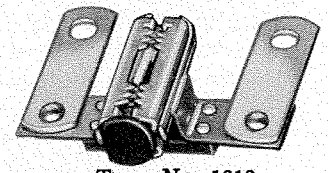
Type No. 1268

Type No. 1268 shunt consists of a Type CD rare-gas arrester held in a vertical position on a base designed for mounting on terminal posts spaced from 1⅞″ to 2⅜″ C.C. This unit is the same as No. 1219 except that a clearance of $\frac{3}{16}$″ is allowed between the base and the surface to which the shunt is attached.



Type No. 1269

Type No. 1269 shunt consists of a type CD rare-gas arrester held horizontally on a base designed for mounting on terminals spaced from 1⅞″ to 2⅜″ C.C. This unit is the same as No. 1239 except that a clearance of $\frac{3}{16}$″ is allowed between the base of the unit and the surface to which the shunt is attached.



Type No. 1213

Type No. 1213 shunt holds a type CD rare-gas arrester on a base designed so that it can be adjusted to fit terminals spaced from 1″ to 4⅛″ C.C.

NOTE: These shunts are generally furnished with CD-4 arrester units having minimum breakdown of 400 volts at 60 cycles. See Plate K62 for ordering reference for rare-gas arrester units only.

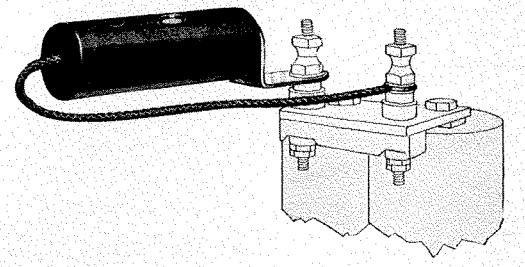
ORDERING REFERENCE

Specify Plate Number K180, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type No. 1214 Rare-gas Shunt complete, with arrester unit.	1214
2	Type No. 1214–1 Holder only	1214–1
3	Type No. 1219 Rare-gas Shunt complete, with arrester unit.	1219
4	Type No. 1219–10 Holder only	1219–10
5	Type No. 1239 Rare-gas Shunt complete, with arrester unit.	1239
6	Type No. 1239–1 Holder only	1239–1
7	Type No. 1268 Rare-gas Shunt complete, with arrester unit.	1268
8	Type No. 1268–10 Holder only	1268–10
9	Type No. 1269 Rare-gas Shunt complete, with arrester unit.	1269
10	Type No. 1269–1 Holder only	1269–1
11	Type No. 1213 Adjustable Rare-gas Shunt complete, with arrester unit.	1213
12	Type No. 1213–1 Adjustable Holder only	1213–1

Type R-2013 Coil Shunts

Adjustable to all spacings up to 6 inches; or over if specially called for.



The advantage of shunts for the protection of relay and searchlight signal coils cannot be fully appreciated unless the rare-gas tube types are used, especially when it is considered that in a rare-gas a spark will occur at potentials of 1/50 of the voltage required in air. It will have the same relative efficiency compared with the air-gap shunt as the rare-gas tube arrester has, compared with the air-gap arrester. In order for the air-gap shunt to be efficient it is necessary to have the plates so closely positioned that there is a constant danger of short-circuiting or fusing. This condition is entirely eliminated by the rare-gas shunt, in which electrodes are widely spaced and further protected by being in a sealed chamber, insuring minimum maintenance.

The Type R-2013TC rare-gas shunt, having extremely low break down, is customarily used for the protection of lamp filaments. It has the same characteristics as the Type 275TC arrester described on Plate K13.

The shunts consist of a rare-gas tube enclosed in a heavy shell fitted with a clip connection on one end and flexible connection on the other end.

This construction permits this shunt to be applied to apparatus having different post spacings.

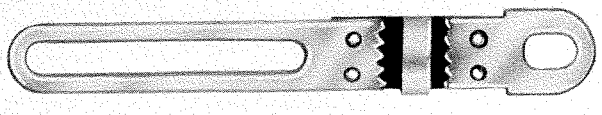
ORDERING REFERENCE

Specify Plate Number K201, Reference Number and Description

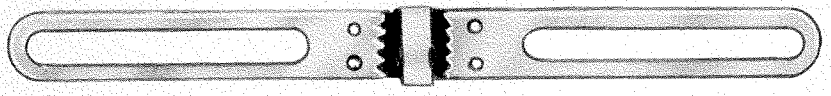
Ref. No.	Description	Piece No.
2	Type R-2013 rare-gas shunt complete, 200-400 volt breakdown	2013-1
3	Type R-2013 rare-gas shunt complete, 475-775 volt breakdown	2013-2
4	Type R-2013TC rare-gas shunt complete, 90-125 volt breakdown	2013-27STC

Coil Shunts

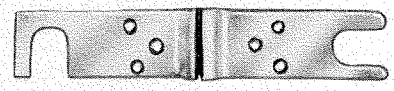
The No. 2426 and No. 100-6 coil shunts are designed to be placed across the coil posts of relays, etc., to allow a static or lightning discharge to jump the small metal to metal gap of 0.032″ instead of going into the coils. The No. 100-6 is furnished with a long slot so that the plate may be placed on ¼″ binding posts of any spacing from $2\frac{3}{16}$″ to 3″ center to center while the No. 2426 is designed for placing on ¼″ binding posts spaced 2⅜″ center to center.



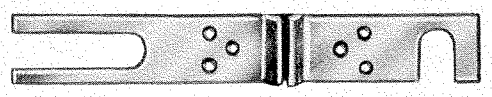
No. 100-113



No. 100-112



No. 2426



No. 100-6

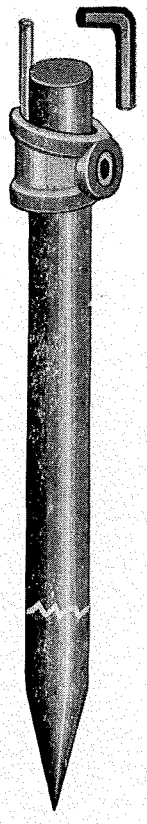
Types 100-112 and 100-113 coil shunts are also designed for placement across the coil posts of relays, etc., providing a metal to removable carbon block to metal spark gap. The 100-112 is equipped with a long slot making it adaptable to fit all ¼″ binding posts spaced from 2″ to 5¼″ whereas the 100-113 has a long and short slot which limits its application from 2″ to 3⅝″.

The principle on which these shunts operate is to provide a path that would be taken by discharges of current rather than jump from layer to layer of the coil winding.

ORDERING REFERENCE

Specify Plate Number K207, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 100-6 coil shunt, for spacing $2\frac{3}{16}$″ to 3″	0100-6
2	Type 2426 coil shunt, for spacing 2⅜″ center to center	2426
9	Type 100-112 coil shunt, for spacing 2″ to 5¼″	0100-112
10	Type 100-113 coil shunt, for spacing 2″ to 3⅝″	0100-113



Ground Rods

For the proper grounding of lightning arresters in signal service and also the grounding of lightning arresters and neutrals in power and light service, ground rods are very extensively used and have proven to be a very satisfactory method of obtaining ground connections.

Ground Wire Clamps will be furnished when specified.

Galvanized

Our galvanized ground rods are made of tough mild steel, very heavily galvanized. One end is pointed to facilitate driving, while the other end is drilled for the reception of the ground wire. A 9/32" hole for using No. 8 B. W. G. wire and a standard channel pin will be drilled unless otherwise specified.

Copperweld

The heavy copper covering of Copperweld Ground Rods is permanently and continuously welded to the extra stiff alloy steel core.

ORDERING REFERENCE

Specify Plate Number K259, Reference Number and Description

GALVANIZED

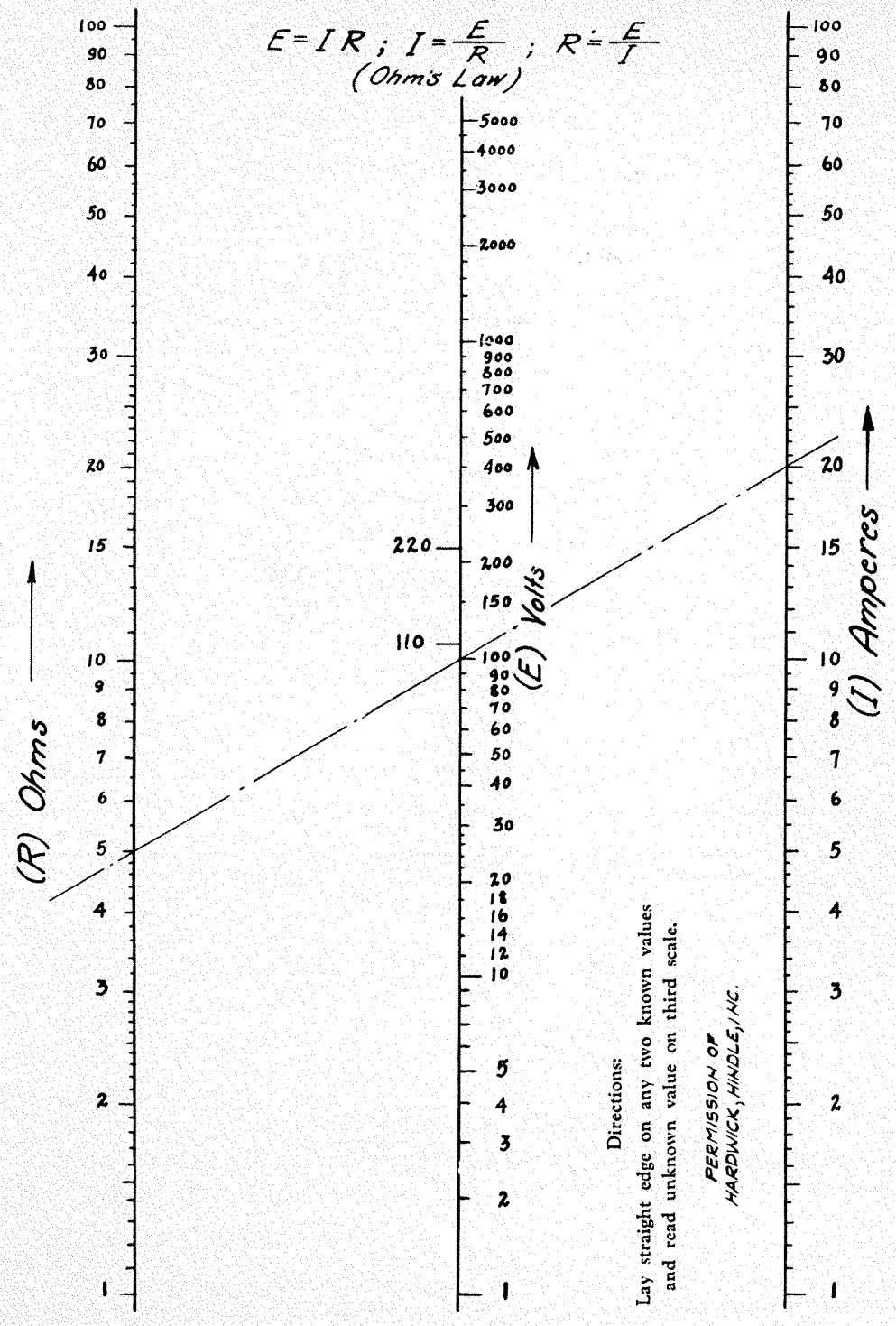
Ref. No.	Size	Ref. No.	Size
1	¾" x 8'	4	1" x 8'
2	¾" x 9'	5	1" x 9'
3	¾" x 10'	6	1" x 11'

COPPERWELD

Ref. No.	Size	Ref. No.	Size
11	⅝" x 5'	24	¾" x 10'
12	⅝" x 6'	25	¾" x 12'
13	⅝" x 7'	31	1" x 6'
14	⅝" x 8'	32	1" x 8'
15	⅝" x 9'	33	1" x 9'
16	⅝" x 10'	34	1" x 10'
21	¾" x 6'	35	1" x 12'
22	¾" x 8'	36	1" x 15'
23	¾" x 9'		

The month and year will be stamped approximately 2" from the end of the rod, when requested, at a slight additional charge.

Standard package 10 rods.


E = I R ; I = E/R ; R = E/I
(Ohm's Law)
(R) Ohms
(E) Volts
(I) Amperes
220
110
Directions:
Lay straight edge on any two known values and read unknown value on third scale.
PERMISSION OF HARDWICK, HINDLE, INC.

WESTERN RAILROAD SUPPLY COMPANY

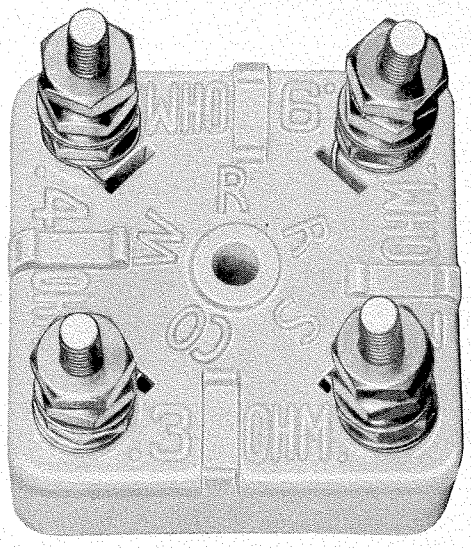
Adjustable Resistance Unit No. 1703

SQUARE TYPE BASE

2½" long x 2½" wide x 2¾" high

Type No. 1703 Adjustable Resistance Unit was resigned primarily for use in battery boxes, relay cases, and other places where space is limited.

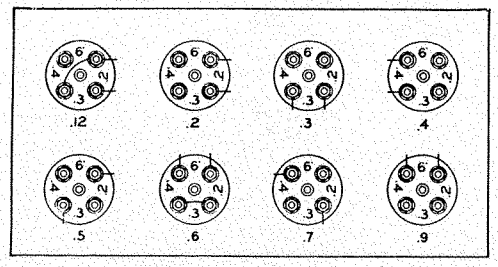
A single continuous piece of No. 18 Nichrome wire is used. The tapped portions are brought to the surface of the porcelain block, where they are securely fastened to A.A.R. standard binding posts so that the wires are visible. This construction successfully eliminates troubles previously experienced with soldered and hidden connections.



Actual Size of No. 1703

Since the connections are made to non-turning A.A.R. binding posts, all sliding contacts and adjusting screws are eliminated. Therefore the unit provides a reliable fixed resistance.

Furnished in a carton with one blued wood screw for mounting.



Resistances Obtainable

ORDERING REFERENCE

Specify Plate Number K301, Reference Number and Description

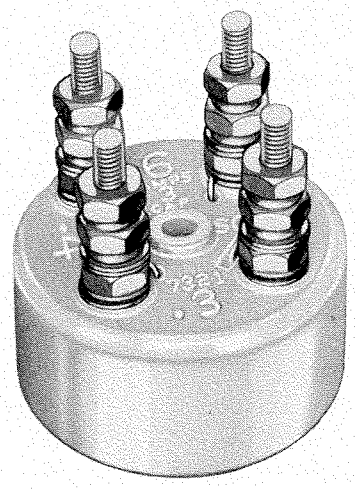
Ref. No.	Description	Piece No.
1	Type No. 1703 Square Type Variable Resistance Unit	1703

Adjustable Resistance Unit No. 7321

ROUND BASE TYPE

2¾" diameter, 3" high

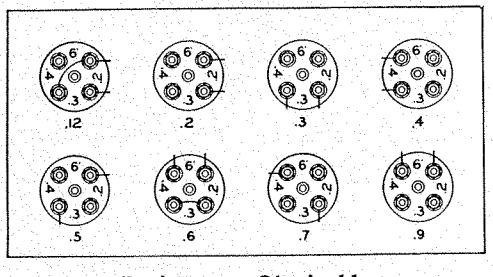
Type No. 7321 Variable Resistance Unit was primarily designed for use in primary battery track circuits for which it has been eminently satisfactory. It consists of a circular porcelain block in which four A. A. R. non-turning posts are mounted.



The wire in this unit is continuous and is looped under the different binding posts on the surface of the porcelain, thus doing away with all soldered connections. No. 16 Nichrome wire is used.

Connections are made to A. A. R. standard binding posts, eliminating all sliding contacts and small adjusting screws. Thus a reliable fixed resistance is available.

Packed one in a carton with one blued wood screw for mounting.



Resistances Obtainable

ORDERING REFERENCE

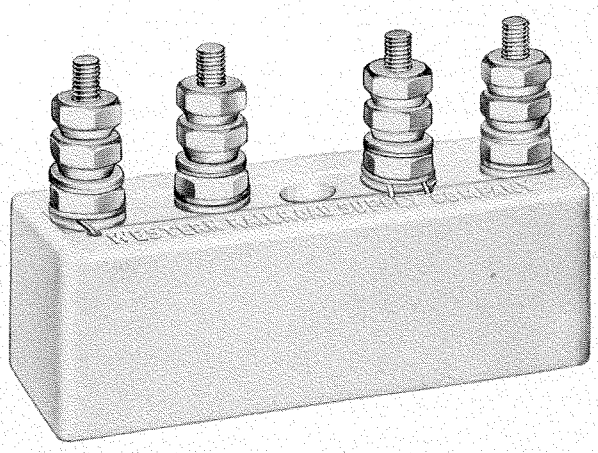
Specify Plate Number K302, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type No. 7321 Variable Resistance Unit complete.....	7321

WESTERN RAILROAD SUPPLY COMPANY

Adjustable Resistance Unit
Narrow Type E1730

4¼" long, 1⅜" wide, 2¼" high



This improved adjustable resistance unit was designed for use in battery boxes, relay cases and places where space is limited.

A single continuous piece of heavy Nichrome wire is used. The tapped portions are brought to the surface of the porcelain block where they are securely fastened to A. A. R. standard binding posts so that the wires are visible. This eliminates trouble previously experienced with soldered and hidden connections.

Type 1730 Resistance Unit is furnished with the following resistances:

Maximum of 0.9 ohm in steps of 0.2, 0.3 and 0.4 ohm.

Maximum of 1.5 ohms in steps of 0.5, 0.5 and 0.5 ohm.

Maximum of 3.0 ohms in steps of 0.5, 1.5 and 1.0 ohm.

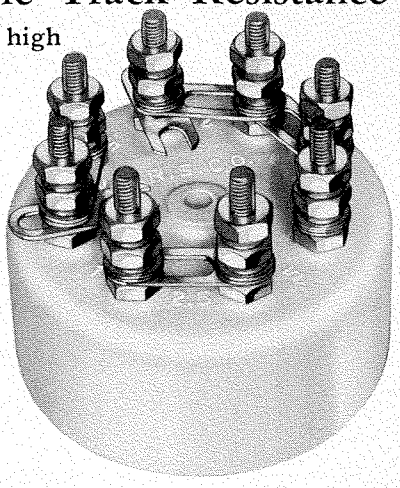
ORDERING REFERENCE

Specify Plate Number K303, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1730 Resistance Unit, complete, 0.9 ohm max	1730-11
2	Type 1730 Resistance Unit, complete, 1.5 ohms max	1730-12
3	Type 1730 Resistance Unit, complete, 3.0 ohms max	1730-13

No. 7323 Universal Adjustable Track Resistance

3¾" diameter, ¾" high



The standard No. 7323 Universal Adjustable Track Resistance is adjustable in 1/10 ohm steps from 1/10 ohm to 5 ohms. It was specially designed for use in track circuits where storage battery is used, but it is universally adaptable to track circuits fed by either storage or primary battery.

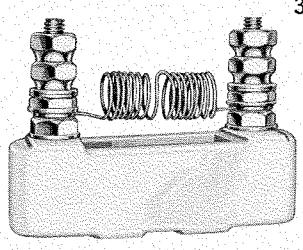
The resistance consists of No. 18 enameled nichrome wire in the 2½ and 1 ohm steps and No. 16 in the smaller steps. The No. 18 will carry 5 amperes and the No. 16 will carry 6 amperes without overheating. Ample protection against lightning and accidental high currents is provided.

Special type 7323 Adjustable Resistance unit, having a total resistance of 10 ohms, is available. Steps of .02, .02, .05, .05, 1, 2.5 and 5.1 ohms are provided.

Connections should be made to posts either side of space marked 5 or 10 and shunting plates removed from spaces marked with the resistance values desired in the circuit.

No. 7325 Non-Inductive Fixed Resistance

3⅜" long, 1" wide, 2½" high



The No. 7325 Fixed Resistance consists of No. 16 Bare nichrome wire coiled five turns per 1/10 ohm and secured on A.A.R. terminal, as shown. The winding is non-inductive.

Being exposed to the air, the wire has more than 6 amperes carrying capacity without overheating. A current of more than 12 amperes is required to raise the temperature to 950 degrees Fahrenheit and the melting point is 2750 degrees Fahrenheit. There are no soldered connections to loosen at high temperatures. Ample protection is provided against burning out by lightning and accidental high currents.

The maximum resistance which can be furnished in this form is 4/10 ohm (20 turns of wire). Frequently those using this unit place one in each lead from the battery to the track, making possible a maximum of 8/10 ohm in each circuit.

Where storage battery is used on track circuits it will often be found convenient to use a fixed resistance of this type in the negative track wire and our No. 7323 adjustable resistance in the positive lead.

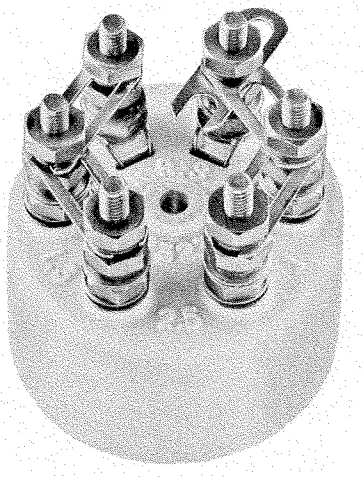
ORDERING REFERENCE

Specify Plate Number K306, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type No. 7323 Universal adjustable resistance, 5 ohms	7323
1a	Type No. 7323 Universal adjustable track resistance, 10 ohms	7323-6
2	Type No. 7325-1 Fixed resistance of .1 ohm, non-inductive	7325-1
3	Type No. 7325-2 Fixed resistance of .2 ohm, non-inductive	7325-2
4	Type No. 7325-3 Fixed resistance of .3 ohm, non-inductive	7325-3
5	Type No. 7325-4 Fixed resistance of .4 ohm, non-inductive	7325-4
6	Shunting plate only for Type No. 7323 resistance	7323-2

WESTERN RAILROAD SUPPLY COMPANY

Type 7327 Adjustable Track Resistance Unit



0.1 OHM TO 2.5 OHMS
3″ diameter, 3¼″ high

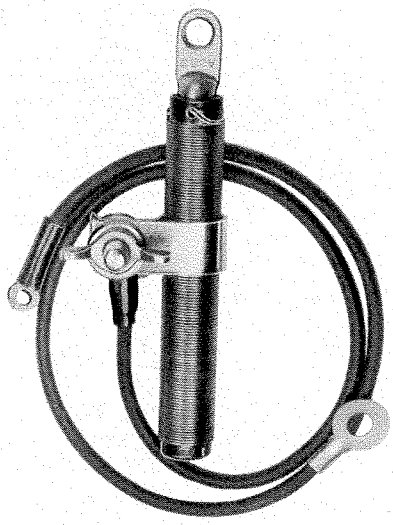
Type 7327 Track Resistance Unit is adjustable from 0.1 ohm to 2½ ohms in 0.1 ohm steps. One continuous piece of No. 18 B&S gauge bare Nichrome resistance wire is used, which is looped to the binding posts on the surface of the block. Resistance values are plainly embossed on the porcelain block.

Furnished with one No. 10 wood screw for mounting.

ORDERING REFERENCE
Specify Plate Number K307, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 7327 Adjustable Track Resistance Unit	7327
2	Shunting Plate Only	7323-2

Variable Resistance Unit for Use With Crossing Bells



This resistance unit can be installed in series with the operating coils of highway crossing bells to provide a means for changing tone volume of the bell without readjusting the hammer stroke or disturbing the operating contacts.

This resistance unit also allows for the use of a 10 ohm bell on any D.C. power supply from 6 volts to 13.5 volts.

Recommended for use in Type 222 and 1275 Bells.

ORDERING REFERENCE
Specify Plate Number K308, Reference Number and Description

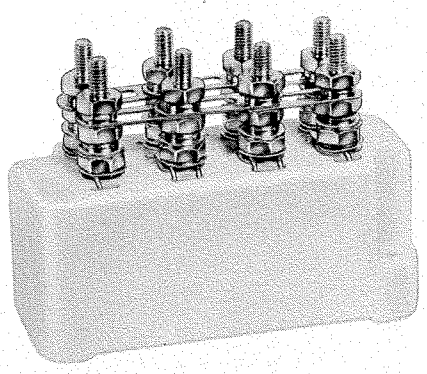
Ref. No.	Description	Piece No.
1	Variable Resistance Unit	1210-28
2	Resistor Only	1210-34
3	Slider Only	1210-35
4	Lead Only	1222-11

WESTERN RAILROAD SUPPLY COMPANY

5-Ohm Adjustable Resistance Unit
Type E1705

0.1 to 5 Ohms

$4\frac{13}{16}$" long, $1\frac{15}{16}$" wide, $3\frac{7}{16}$" high (overall)



This type of adjustable resistance unit meets any track circuit need where storage batteries are used. It can also be used on primary battery track circuits if desired.

While the unit was designed large enough so that a very heavy nichrome wire could be used to provide protection against burn-outs due to lightning or accidental high currents, yet it is compact and occupies very little space. A continuous piece of No. 16 nichrome wire is used for .1, .2, and .4 ohm steps of the unit. A continuous piece of No. 19 nichrome wire is used for .8, 1.5, and 2 ohm steps. The two sides are connected above the base by a copper connector.

As in our other types of resistance units, there are no soldered or hidden connections in this 5-ohm unit. Each tapped portion of the resistance is brought to the surface of the porcelain, where it is securely fastened to A.A.R. binding posts so that the wires are visible.

Adjustable in 1/10 ohm steps from 1/10 ohm to 5 ohms

ORDERING REFERENCE

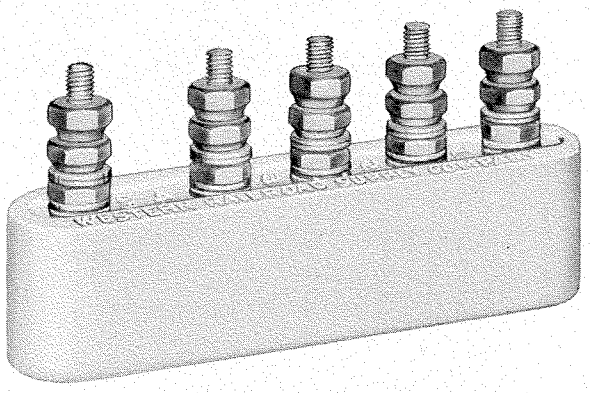
Specify Plate Number K309, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type E1705 Adjustable Resistance Unit as shown, complete with one connecting plate, 5 ohm	1705-11
2	Type E1705 Adjustable Resistance Unit, complete with one connecting plate and six Shunting Plates, 5 ohm	1705-12
3	Shunting Plate only for Type E1705 Resistance Unit	7323-2
4	Type E1705 Adjustable Resistance Unit, complete with one connecting plate and two shunting plates, 5 ohm	1705-13

WESTERN RAILROAD SUPPLY COMPANY

Adjustable Resistance Unit
Narrow Type E1702

5½" long, 1¼" wide, 2¾" high



The resistances of the Type E1702 Resistance unit are accurately measured. A single continuous piece of heavy nichrome wire is used. Each tapped portion is brought to the surface of the porcelain where it is securely fastened to binding posts where it can be seen. Standard units are made with resistances from one-tenth to one ohm. They can also be furnished with two ohms and 10 ohms total resistance on the same basis, and other values as shown.

TYPICAL SCHEDULE OF RESISTANCES FOR 1 OHM UNIT

Connect 1 and 2—0.1 ohm
Connect 2 and 3—0.2 ohm
Connect 3 and 4—0.3 ohm
Connect 4 and 5—0.4 ohm
Connect 2 and 4—0.5 ohm
Connect 1 and 4—0.6 ohm
Connect 3 and 5—0.7 ohm
Connect 1 and 5 and strap between 2 and 3—0.8 ohm
Connect 2 and 5—0.9 ohm
Connect 1 and 5—1.0 ohm

ORDERING REFERENCE

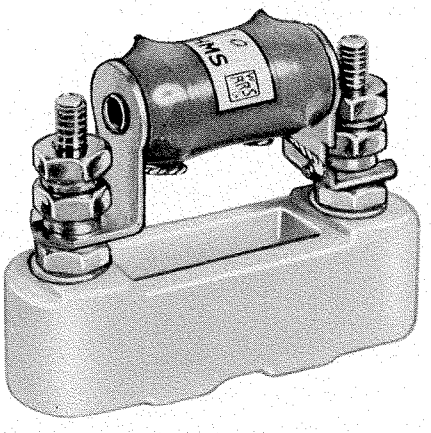
Specify Plate Number K312, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type E1702 Resistance Unit complete, 1 ohm (steps 0.1, 0.2, 0.3, 0.4 ohm)	E1702-11
2	Type E1702 Resistance Unit complete, 2 ohm (steps 0.2, 0.4, 0.6, 0.8 ohm)	E1702-12
3	Type E1702 Resistance Unit complete, 10 ohm (steps 1, 2, 3, 4 ohms)	E1702-13
4	Shunting Plate only for E1702 Resistance	E7323-2
5	Type E1702 Resistance Unit, 80 ohms (steps 10, 20, 20, 30 ohms) with one shunting plate	E1702-14
6	Type E1702 Resistance Unit, 350 ohms (steps 50, 100, 100 ohms) with one shunting plate	E1702-15
7	Type E1702 Resistance Unit, 2.3 ohms (steps 0.4, 0.5, 0.6, 0.8 ohm)	E1702-16
8	Type E1702 Resistance Unit, 110 ohms (steps 10, 20, 30, 50 ohms)	E1702-17

WESTERN RAILROAD SUPPLY COMPANY

Vitrohm Resistor Units for Railway Signal, Telegraph and Telephone Systems

Duty, Continuous. Type, Wire Wound. Vitreous Enamelled.



Vitrohm Fixed Resistors have proven highly successful in railroad signal and communication circuits. Many engineers have found that they can depend on these resistors for their accuracy and dependability.

Vitrohm resistors will endure a repeated heating and cooling cycle from 340° C to —20° C and prolonged exposure to high humidity and electrolysis without any effect upon either the Vitrohm enamel or the resistance wire.

Smooth cylindrical ceramic cores having a high density, high dielectric strength, low porosity body with a thermal coefficient of expansion selected to match that of the body.

Resistance wire especially manufactured to meet rigid uniform characteristics and ability to withstand excessive overloads under exacting service conditions.

Terminals of high heat-resistant, high tensile-strength alloy, especially selected to insure proper expansion, good adherence to the enamel and strong anchorage to the core. They are clamped and welded securely to the core.

Junction between resistance wires and terminals are first mechanically joined then silver brazed to insure a permanent, positive, low-resistance bond between wire and terminals.

Vitrohm enamel is a hard, tough moisture and acid resisting vitreous cover possessing high heat conductivity. It completely seals the resistance wire and provides an excellent mechanical protection for the wires, terminals and their junctions.

ORDERING REFERENCE

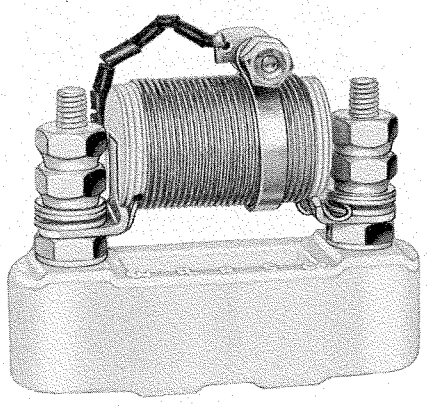
Specify Plate Number K318, Reference Number and Description

Ref. No.	Description	Piece No.
8	Type A.A.R. Resistor, maximum continuous dissipation 15 watts. Complete with porcelain terminal block. Specify resistance.....	1240
8a	Type A.A.R. Resistor, maximum continuous dissipation 15 watts, less porcelain terminal block. Specify resistance.....	1240-1

Type 1915 Resistance Unit

VARIABLE

3⅜" long, 1" wide, 2⅞" high



The No. 1915 Resistance Units have resistances as specified in the table below. Highest quality porcelain and resistance wire are used. The resistance wire is wound on the porcelain spool and is secured to the mounting brackets both mechanically and by soldering. Adjustment of resistance is made by means of a movable clamp ring.

Construction is such that should the clamp ring become loosened or broken, the total resistance of the winding will be in the circuit.

The No. 1915 Resistance Units are furnished complete mounted on an A.A.R. 10565 porcelain terminal block unless otherwise specified.

Two wood screws for mounting are furnished.

RATING IN WATTS — 25 MAXIMUM

ORDERING REFERENCE

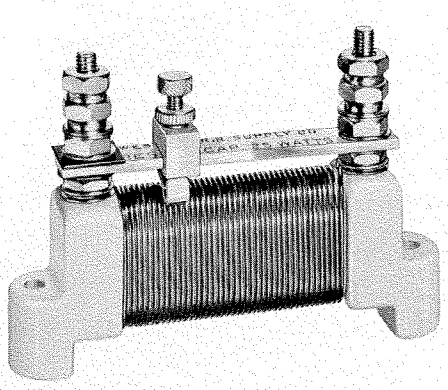
Specify Plate Number K325. Reference Number and Description.
Description—Type No. 1915 Variable Resistance Unit

Ref. No.	Description	Piece No.
1	Type 1915 Variable Resistance Unit, 2.0 ohms	1915-1
2	Type 1915 Variable Resistance Unit, 3.7 ohms	1915-2
3	Type 1915 Variable Resistance Unit, 5.0 ohms	1915-3

Special Units within the capacity of the porcelain will be furnished to order.

Type 1110 Adjustable Slide Resistance Unit

$4\frac{13}{16}$" long, 1" wide, $3\frac{9}{16}$" high



21 Turn Resistor

Standard Type No. 1110 Slide Resistance Units have resistances as specified in the tables below.

On Western adjustable Slide Resistance Units, the slider can be loosened, moved and re-tightened without losing contact with the resistance wire, an exclusive feature, and construction is such that should the slider become broken, the total resistance of the winding is then in the circuit.

Two wood screws are furnished with each resistance unit for mounting.

RATING IN WATTS — 25 MAXIMUM

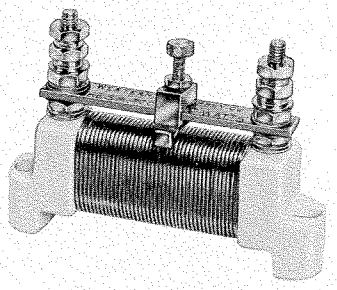
ORDERING REFERENCE
Specify Plate Number K326, Reference Number and Description
Description—Type No. 1110 Variable Resistance

Ref. No.	Total Resistance in Ohms	Ohms Per Step	Piece No.
1	1.0	0.05	1110-1
1a	1.5	0.075	1110-2
2	2.26	0.10	1110-3
3	2.88	0.13	1110-4
4	3.56	0.16	1110-5
4a	4.50	0.225	1110-6

WESTERN RAILROAD SUPPLY COMPANY

Type 1110 Variable Slide Resistance Unit

$4\frac{13}{16}$" long, 1" wide, $3\frac{9}{16}$" high

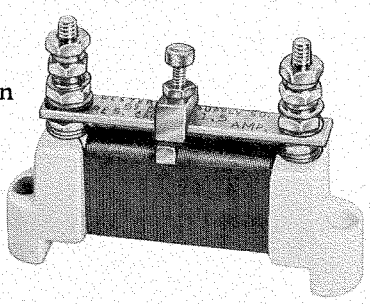


42 Turn Resistor

RATING IN WATTS — 25 MAXIMUM

Ref. No.	Total Resistance in Ohms	Steps In Ohms	Piece No.
2a	2.81	0.067	1110-4D
3a	3.50	0.083	1110-5D
4b	4.50	0.107	1110-6D
5a	5.69	0.133	1110-7D
6a	7.03	0.167	1110-8D
7a	8.90	0.212	1110-9D
8a	11.21	0.267	1110-10D
9a	14.24	0.339	1110-11D
10a	17.84	0.425	1110-12D
11	22.73	0.541	1110-13D
12	28.66	0.682	1110-14D
13	36.31	0.866	1110-15D
14	45.53	1.084	1110-16D
15	57.81	1.376	1110-17D
16	71.89	1.706	1110-18D
17	91.80	2.186	1110-19D
18	115.91	2.711	1110-20D

Resistor wound turn-to-turn with enamel wire.



$4\frac{13}{16}$" long, 1" wide, $3\frac{9}{16}$" high

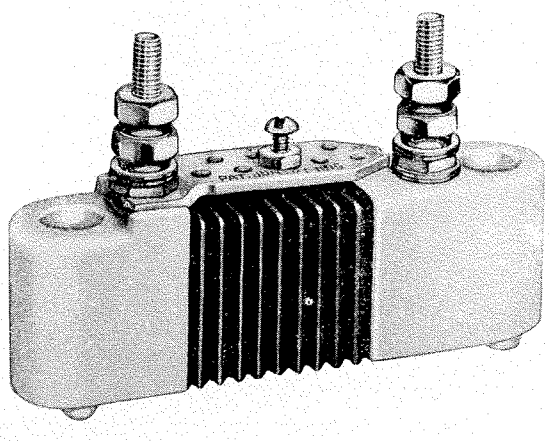
RATING IN WATTS — 25 MAXIMUM

Ref. No.	Total Resistance in Ohms	Steps In Ohms	Piece No.
20	21.12	.0475	1110-111
21	30.18	.0333	1110-112
22	42.0	.0237	1110-113
23	59.59	.0168	1110-114
24	84.54	.0118	1110-115
25	121.40	.0082	1110-116
26	135.53	.0074	1110-117
27	243.62	.0041	1110-118

WESTERN RAILROAD SUPPLY COMPANY

Law Resistance Unit

4⅝" long, 3⅛" high, 1" wide



The Law Resistance Unit is adjustable by means of removable screw making contact with wire wound around the porcelain. The unit is adjustable in ten equal steps from 1/10 maximum resistance to maximum. The contact of the screw adjustment and the wire is such that the connection is non-corrosive.

Stranded resistance wire, moisture proofed, and highest quality porcelain are used in the construction. Wood screws for mounting are furnished.

This unit is made in 8 standard sizes as shown in the table below.

ORDERING REFERENCE

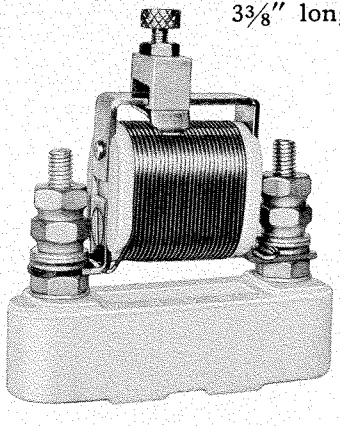
Specify Plate Number K327, Reference Number and Description

Ref. No.	Description	Total Resistance in Ohms	Steps Ohms	Piece No.
1	Law Resistance Unit	1.	0.1	1707-11
2	Law Resistance Unit	1.5	0.15	1707-12
3	Law Resistance Unit	2.	0.2	1707-13
4	Law Resistance Unit	3.	0.3	1707-14
5	Law Resistance Unit	5.	0.5	1707-15
6	Law Resistance Unit	6.	0.6	1707-16
7	Law Resistance Unit	8.	0.8	1707-17
8	Law Resistance Unit	10.	1.0	1707-18

WESTERN RAILROAD SUPPLY COMPANY

Type No. 1102 Adjustable Slide Resistance Unit

3⅜" long, 1" wide, 3¾" high



Type No. 1102 Adjustable Resistance, wound with enameled Nichrome wire turn-to-turn, designed to fit ¼" binding posts with spacing of 2⅜" c.c., is varaible in steps equal to resistance of one turn of wire. The carrying capacity is higher than that of most units of comparable size. On Western Adjustable Slide Resistance Units, the slider can be loosened, moved and re-tightened without losing contact with the resistance wire, an exclusive feature, and construction is such that should the slider become broken, the total resistance of the winding is then in the circuit.

This unit is also available as a fixed resistance (with slider and slider-bar omitted). See Plate K330. Type No. 1107.

Two No. 8 x 1¼" round head blued wood screws are furnished with Reference Nos. 1 through 9 unless otherwise specified.

RATING IN WATTS — 25 MAXIMUM

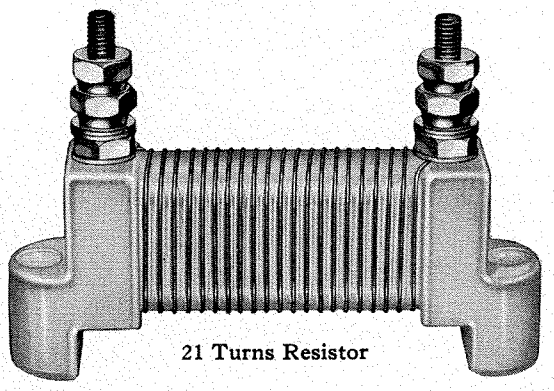
ORDERING REFERENCE
Specify Plate Number K328, Reference Number and Description
Description—Type No. 1102 Variable Resistance

Ref. No. with Terminal Block	Ref. No. without Terminal Block	Nominal Resistance (Maximum with slider in contact) in Ohms	Total Resistance of Winding	Minimum Resistance in Ohms	Piece No.
1		1	1.035	.054	1102-11
2		2	2.3	.095	1102-12
3		4	4.5	.155	1102-13
4		6	6.5	.197	1102-14
5		10	12.6	.307	1102-15
6		16	18.5	.402	1102-16
7		24	26.5	.500	1102-17
8		32	35.8	.606	1102-18
9		0.62	.07	.034	1102-19
9a		46	50.0	.803	1102-19A
9b		137	150.0	2.03	1102-19B
9c		96	105.0	1.60	1102-19C
	11	1	1.035	.054	1102-21
	12	2	2.3	.095	1102-22
	13	4	4.5	.155	1102-23
	14	6	6.5	.197	1102-24
	15	10	12.6	.307	1102-25
	16	16	18.5	.402	1102-26
	17	24	26.5	.500	1102-27
	18	32	35.8	.606	1102-28
	19	0.62	.07	.034	1102-29
	19a	46	50.0	.803	1102-29A
	19b	137	150.0	2.03	1102-29B
	19c	96	105.0	1.60	1102-29C

WESTERN RAILROAD SUPPLY COMPANY

Type No. 1120 Fixed Resistance Units

$4\frac{13}{16}$" long, 1" wide, $3\frac{9}{16}$" high



21 Turns Resistor

Type No. 1120 Fixed Resistance Units have resistances as specified below. Only the highest quality porcelain and resistance wire are used in their manufacture. The construction of Type No. 1120 is the same as that of the long-proven Type No. 1110 except that the slider-bar and slider have been omitted so that the resistance of the unit is fixed and not variable.

Two wood screws are furnished with each unit.

RATING IN WATTS — 25 MAXIMUM

ORDERING REFERENCE
Specify Plate Number K329, Reference Number and Description
Description—Type No. 1120 Fixed Resistance

Ref. No.	Total Resistance in Ohms		Piece No.
1	1.0		1120-1
1a	1.5		1120-2
2	2.26		1120-3
3	2.88		1120-4
4	3.56		1120-5

Special units within the capacity of the porcelain will be furnished to order.

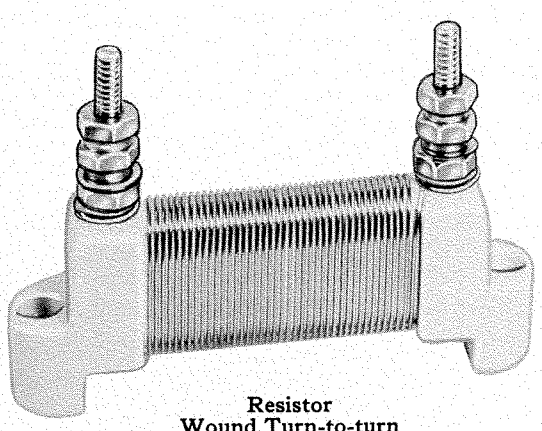
WESTERN RAILROAD SUPPLY COMPANY

Type No. 1120 Fixed Resistance Units

$4\frac{3}{16}$" long, 1" wide, $3\frac{9}{16}$" high

42 Turn Resistor

Ref. No.	Total Resistance in Ohms		Piece No.
2a	2.81		1120-4D
3a	3.50		1120-5D
4b	4.50		1120-6D
5a	5.69		1120-7D
6a	7.03		1120-8D
7a	8.90		1120-9D
8a	11.21		1120-10D
9a	14.24		1120-11D
10a	17.84		1120-12D
11	22.73		1120-13D
12	28.66		1120-14D
13	36.31		1120-15D
14	45.53		1120-16D
15	57.81		1120-17D
16	71.89		1120-18D
17	91.80		1120-19D
18	115.91		1120-20D

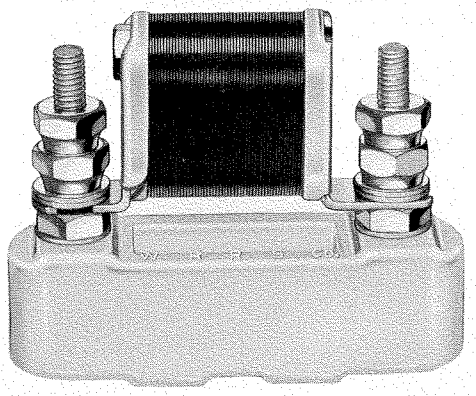


Resistor
Wound Turn-to-turn
with enameled wire

Ref. No.	Total Resistance in Ohms		Piece No.
20	21.12		1120-111
21	30.18		1120-112
22	42.0		1120-113
23	59.59		1120-114
24	84.54		1120-115
25	121.40		1120-116
26	135.53		1120-117
27	243.62		1120-118

Special units within the capacity of the porcelain will be furnished to order.

Type No. 1107 Fixed Resistance Unit



Type 1107 Fixed Resistance Units, wound with enameled Nichrome wire turn-to-turn, designed to fit ¼" binding posts with spacing of 2⅜" C. C. have the various resistances as listed below. It is the same unit as 1102 except that it is constructed to act as a fixed resistance, not variable. It is of the same compact, sturdy structure as all Western Railroad Supply Company resistance units. Two wood screws are furnished with each unit. This resistance is furnished with or without terminal block, as specified.

RATING IN WATTS — 25 MAXIMUM

ORDERING REFERENCE
Specify Plate Number K330, Reference Number and Description
Description—Type No. 1107 Fixed Resistance

Ref. No. with Terminal Block	Ref. No. Less Terminal Block	Total Resistance in Ohms	Piece No.
1		1.035	1107-11
2		2.3	1107-12
3		4.5	1107-13
4		6.5	1107-14
5		12.6	1107-15
6		18.5	1107-16
7		26.5	1107-17
8		35.8	1107-18
	11	1.035	1107-21
	12	2.3	1107-22
	13	4.5	1107-23
	14	6.5	1107-24
	15	12.6	1107-25
	16	18.5	1107-26
	17	26.5	1107-27
	18	35.8	1107-28

WESTERN RAILROAD SUPPLY COMPANY

A. R. A. Terminal Blocks

3⅜" long, 1" wide, 2 1/16" high

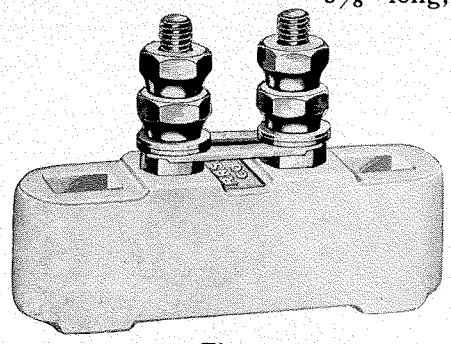


Fig. 1

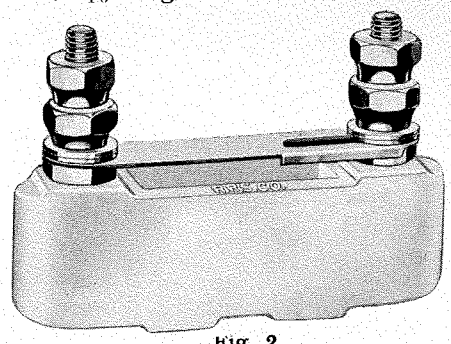


Fig. 2

Fig. 3

Fig. 4

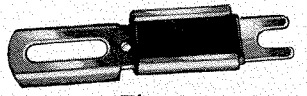


Fig. 5

Fig. 6

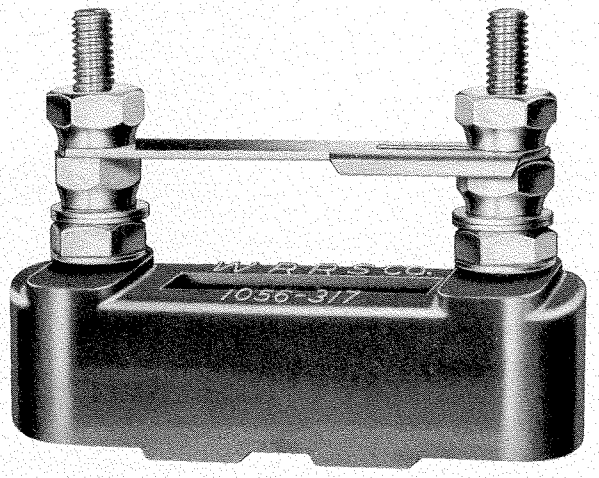
ORDERING REFERENCE

Specify Plate Number K402, Reference Number and Description

Ref. No.	Description	A. A. R. No.	Fig. No.	Piece No.
1	Porcelain terminal complete with connector. (Binding posts 1" C. C.)	105614	1	1056-3E
2	Porcelain terminal block only (less connector)		1	1056-9E
3	Short copper connector only	10761	1	1056-2
4	Porcelain terminal complete with connector. (Binding posts 2⅜" C. C.)	105615	2	1056-5E
5	Porcelain terminal block only (less connector)		2	1056-10E
6	Long copper connector only	10762	2	1056-4
7	Porcelain terminal complete with tube tag connector (A. A. R. No. 105615 block, and red fibre tag unless otherwise specified)		3	1056-111
8	Tag connector only, complete with tube tag		3	1056-104
9	Red fibre tube tag only (for above)		3	1056-100
10	A. A. R. 105615 block complete with tag connector (Fig. 4) and black fibre tag		4	1056-105
11	Tag connector complete with black fibre tag (as shown)		4	1056-106
12	Black fibre tag only (for Fig. 4 and Fig. 5)		4	1056-101
13	A. A. R. 105615 block complete with tag connector (Fig. 4) white bristol board and celluloid tag		4	1056-107
14	Tag connector (Fig. 4) complete with white bristol board and celluloid tag			1056-108
15	White bristol board and celluloid tag only (for above connector)			1056-102 1056-103
16	A. A. R. 105615 block complete with tag connector (Fig. 5) and black fibre tag		5	1056-109
17	Tag connector (Fig. 5) complete with black fibre tag.		5	1056-110
18	A.A.R. 105615 block complete with tag connector (Fig. 6)		6	1056-87
19	Tag connector only, suitable for marking with ink (Fig. 6)		6	1056-86

WESTERN RAILROAD SUPPLY COMPANY

A.A.R. Bakelite Terminal Block



This terminal is constructed of the best bakelite with Everdur Bronze posts firmly molded into the block.

Everdur bronze posts are nickel plated. Post protrudes from block 1⅜".

ORDERING REFERENCE
Specify Plate Number K403, Reference Number and Description

Ref. No.	Description	Piece No.
1	Bakelite Terminal Complete With Connector, Binding Posts 2⅜" C.C.	1056-205
2	Bakelite Terminal Complete Less Connector, Binding Posts 2⅜" C.C.	1056-210

See Plate K402 for other types of long link connectors with which this Terminal Block may be equipped.

Binding Posts, Nuts and Washers

A.A.R. STANDARD No. 14-24 THREAD

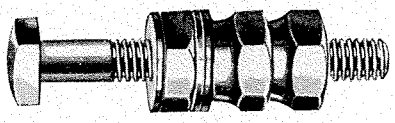


Fig. 1

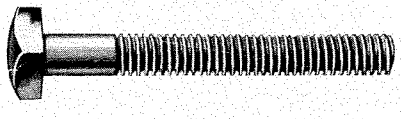


Fig. 2

Fig. 3

Fig. 5

Fig. 4

Fig. 6

All parts are furnished nickel plated.

ORDERING REFERENCE

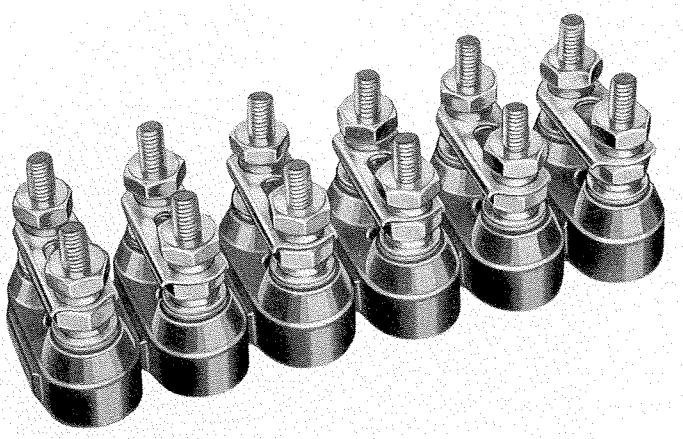
Specify Plate Number K405, Reference Number and Description

Ref. No.	Description	A. A. R. No.	Fig. No.	Piece No.
2a	Binding post assembly complete (Everdur bronze 1⅞" long)	107010	1	
3b	Binding post assembly complete (Everdur bronze 1½" long)	107010	1	
4a	Binding post assembly complete (Everdur bronze 2¼" long)	107010	1	
6a	Binding post only (Everdur bronze 1⅞" long)	10709	2	
7b	Binding post only (Everdur bronze 1½" long)	10709	2	
8	Binding post only (Everdur bronze 2¼" long)	10709	2	
9	Binding nut	10706	3	
10	Chamfered washer	10708	4	
11	Clamp nut	10707	5	
12	Cup washer		6	5008

WESTERN RAILROAD SUPPLY COMPANY

Type No. 2506 Terminal Strip

6″ long, 2″ wide, 1½″ high



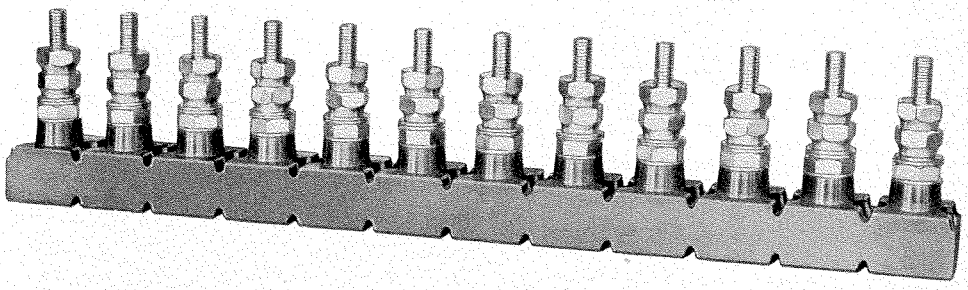
Type No. 2506 Terminal Strip consists of twelve Everdur Bronze bolts securely molded in a bakelite base, complete with nuts and washers. The spacing of the bolts is 1″ in each direction. The block is so formed that it can easily be cut into sections. Each of the six sections is drilled so that sections can be mounted independently. The 2506 unit has become popular, due to the fact that it can easily be divided into smaller units, that it takes up very little space, and that no matter how many times it is handled it will always offer a secure, sturdy terminal post.

ORDERING REFERENCE
Specify Plate Number K408, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type No. 2506 Terminal Strip, complete with nuts, washers, and connecting links	2506-16E
2	Type 2506 Terminal Strip, complete with nuts and washers, without connecting links	2506-56E
3	Short copper connecting link (AAR-10761)	1056-2

WESTERN RAILROAD SUPPLY COMPANY

Type No. 2508 Terminal Strip



Designed in strict accordance with A.A.R. Signal Section, Drawing 1054.

Type 2508 Multiple Unit Terminal Strip is equipped with 12 Everdur Bronze bolts firmly molded in brown bakelite.

The units can be staggered for through wire connections to single posts, or placed side by side for 1″ connectors, or spaced in parallel for 2⅜″ connectors.

Twelve post units can easily be cut into shorter sections.

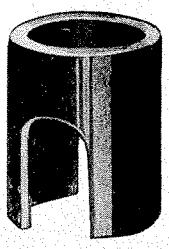
ORDERING REFERENCE
Specify Plate Number K409, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 2508, 12 Post, Terminal Strip	2508-112E
7	Type 2508, 6 Post, Terminal Strip	2508- 16E

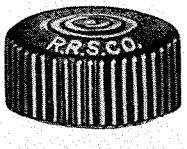
WESTERN RAILROAD SUPPLY COMPANY

Binding Post Insulating Sleeve and Cap

FOR POWER SUPPLY CIRCUITS OF 110 VOLTS AND HIGHER



Insulating Sleeve
Size: 9/16" diam.

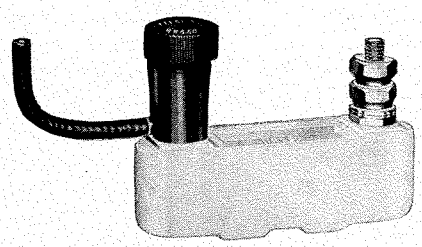


Insulating Cap
Red or Black

To prevent the possibility of a short circuit where binding posts are closely grouped, Western Railroad Supply Company advocates the use of the insulating caps and sleeves illustrated above.

The insulating cap is reinforced by a metal insert to safeguard against the stripping of threads. The cap is also knurled to make handling easier.

The sleeve is furnished in standard length for A. A. R. binding posts which show an exposed length of 1¼". Sleeves can be furnished, however, for posts of other lengths. Specify the dimension above the surface of the post to be protected.



Showing application of Sleeve and Cap to Terminal Block

ORDERING REFERENCE

Specify Plate Number K410, Reference Number and Description

Ref. No.	Description	Piece No.
1	Insulating sleeve 1⅛" long	R2000-2
2	Insulating cap—Black	R2000-1
2a	Insulating cap—Red	R2000-1R

Wire Eyelets—Wire Eyelet Pliers

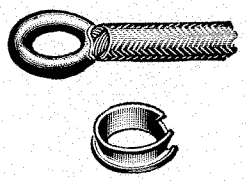


Fig. 1. Showing No. 10 Wire Eyelet

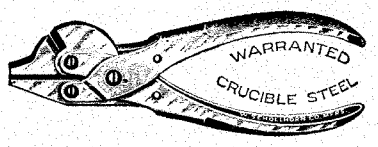


Fig. 2. Showing No. 102 Eyelet Pliers

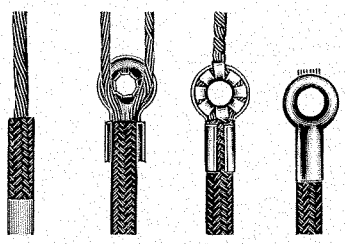


Fig. 3. Showing No. 21 Terminal (½ size)

Fig. 4. Showing Special Eyelet Pliers

ORDERING REFERENCE

Specify Plate Number K427, Reference Number and Description

Note—Information Bracketed Need Not Be Given

Ref. No.	Description	Old Catalog No.
1	Brass wire eyelet (for No. 14 to No. 18 stranded or flexible wire, to fit 14/24 A.A.R. binding posts.) (Fig. 1)	10
2	Copper wire eyelet (for No. 14 to No. 18 stranded or flexible wire, to fit 14/24 A.A.R. binding posts.) (Fig. 1)	10
3	Smooth face parallel jaw cutting pliers (for attaching No. 10 and similar wire eyelets.) (Fig. 2)	102
4	Brass wire terminal (for No. 14 to No. 18 wire to fit 14/24 A.A.R. binding post.) (Fig. 3)	21
5	Copper wire terminal (for No. 14 to No. 18 wire to fit 14/24 A.A.R. binding post.) (Fig. 3)	21
6	New type eyelet plier (which grips and clamps the eyelet to the wire and trims the loose ends.) (Fig. 4)	
7	Brass wire eyelet (for No. 9 stranded or flexible wire, to fit 14–24 A.A.R. binding posts.) (Fig. 1)	A-1088

Marking Tags

1/16 INCH THICK

Fibre—Black, Red, Grey, White—Aluminum or Brass

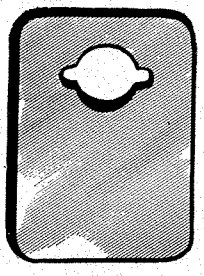


Fig. 1

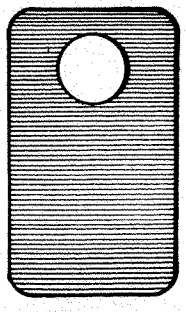


Fig. 2

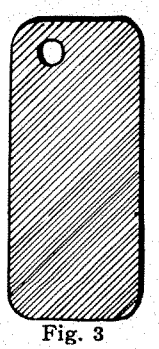


Fig. 3

Fig. 4

Fig. 5

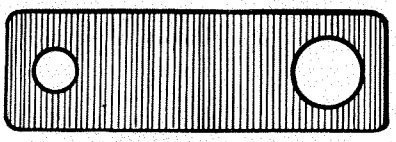


Fig 6

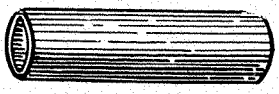


Fig. 7

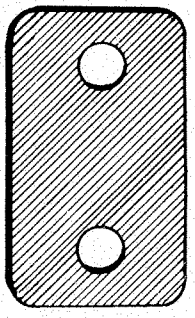


Fig. 8

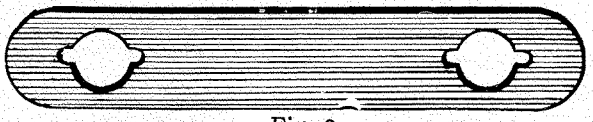


Fig. 9

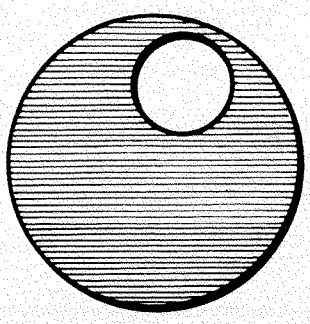


Fig. 10

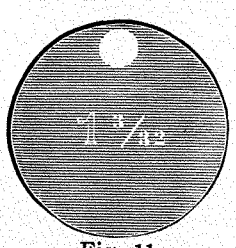


Fig. 11

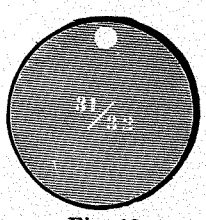


Fig. 12

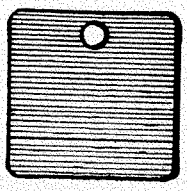


Fig. 13

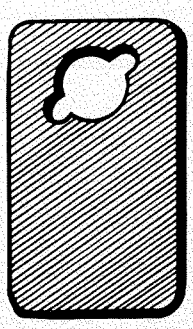


Fig. 14

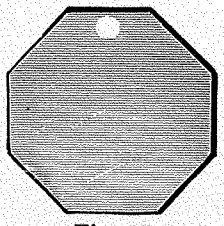


Fig. 15

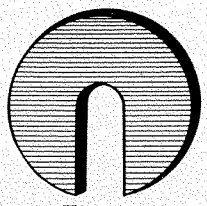


Fig. 16

Ordering References given on opposite page.

Marking Tags

1/16 INCH THICK

Fibre—Black, Red, Gray, White—Aluminum or Brass

NOTE:—Black fibre tags $\frac{1}{16}$" thick will be furnished unless other color or aluminum or brass is specified.

ORDERING REFERENCE

Specify Plate Number K460, Reference Number and Description

Description—Marking Tags

Ref. No.	Fig. No.	Size Inches	Diameter of Hole	Piece No.
1	1	7/8" x 1 1/4"	3/8" with 1/2" wing	5600-1
2	1	7/8" x 1 1/2"	3/8" with 1/2" wing	A.A.R. 16221
3	2	7/8" x 1 1/2"	3/8"	5600-3
4	2	7/8" x 1 1/2"	5/32"	5600-4
5	2	7/8" x 1 1/2"	1/2"	A.A.R. 16222
6	†3	5/8" x 1 1/2"	1/8"	5600-6
7	†4	5/8" x 1 1/2"	1/8"	5600-7
8	5	3/8" x 1 1/4"	*3/16"	5600-8
9	6	5/8" x 2"	1/4" and 3/8"	5600-9
10	7	1 1/4" long	**1/4" I.D., 3/8" O.D.	5600-10
11	7	5/8" long	**3/8" I.D., 1/2" O.D.	5600-11
12	7	5/8" long	**1/4" I.D., 3/8" O.D.	5600-12
13	8	7/8" x 1 1/2"	††1/4"	5600-13
14	9	1/2" x 2 7/8"	***3/8" with 1/2" wing	5600-14
15	10	1 1/2" Diam.	1/2"	5600-15
16	11	1 3/32" Diam.	1/4"	5600-16
17	11	1 3/32" Diam.	3/16"	A.A.R. 16223
18	12	31/32" Diam.	1/8"	5600-18
19	12	31/32" Diam.	5/32"	5600-19
20	13	7/8" x 7/8"	3/32"	5600-20
21	13	7/8" x 7/8"	5/32"	5600-21
22	14	7/8" x 1 1/2"	3/8" with 9/16" wing	A.A.R. 16221
23	15	1 3/16" Diam.	5/32"	5600-23
24	6	3/4" x 2 7/16"	†††1/2"	5600-24
25	16	15/16" Diam.	1/4" wide slot	5600-25
26	7	1" long	3/8" I.D., 1/2" O.D.	5600-26
27	7	3/4" long	3/16" I.D., 5/16" O.D.	5600-27
32	7	5/8" long	3/16" I.D., 5/16" O.D.	5600-32
33	7	13/16" long	9/32" I.D., 3/8" O.D.	5600-33

†Furnished with treated string applied, when specified.
*Two holes of this tag spaced 7/8" center to center.
**Inside and outside diameter dimensions of tube tag above.
††Two holes of this tag spaced 1" center to center.
***Two holes of this tag spaced 2" center to center.
†††Two holes of this tag spaced 1 11/16" center to center.

All fibre tags can be furnished varnished one or both sides when specified.
All tags can be furnished in waterproof black flexible dilecto if specified.

WESTERN RAILROAD SUPPLY COMPANY

Fuse Blocks

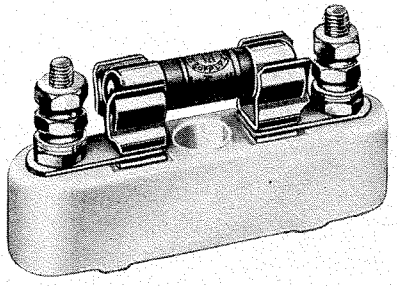


Fig. 1. Size 1″x4⅜″

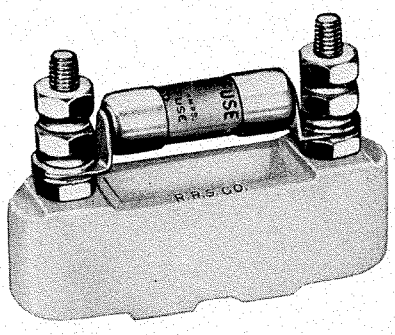


Fig. 2

Standard Fuse Terminal Block Mounting shown in Figure 1 accommodates A. A. R. fuses $\frac{9}{16}$″ in diameter by 2″ long.

The Screw Clamp Contact Fuse No. 2703, which is shown in Figure 2, will mount on A. A. R. terminal block No. 10565.

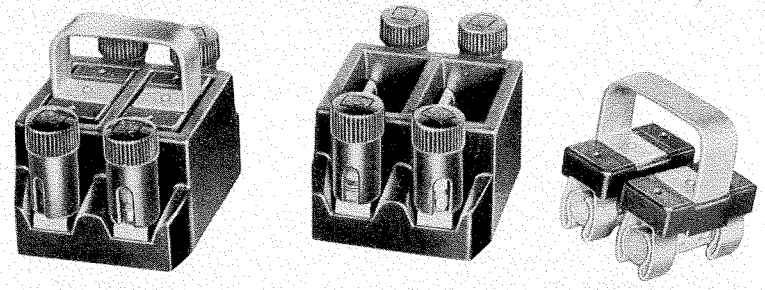
ORDERING REFERENCE

Specify Plate Number K579, Reference Number and Description

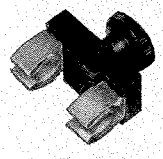
Ref. No.	Description	Fig. No.	Piece No.
1	Fuse Terminal Block, complete with 9/16″ x 2″ A.A.R. fuse. State amperage	1	2302
2	A.A.R. Cartridge Fuse only. State amperage	1	2702
3	Fuse Terminal Block only, for A.A.R. fuse	1	2302-6
4	A.A.R. Terminal Block 10565, complete with screw clamp contact fuse. State amperage	2	2703-1
5	Screw clamp contact fuse only. State amperage	2	2703
6	Blow-Rite Fuse Wire (specify blowing point)		

WESTERN RAILROAD SUPPLY COMPANY

Type 2305 Disconnect Switch



Two Pole Type with Common Handle on Fuse Holders
4½" long x 3 1/16" wide x 3¼" high over handle



Fuse Holder With Individual Handles

Type 2305 Disconnect Switches, in their various styles, provide a line of dead front fuse-disconnect switches for use on two wire incoming A.C. power circuits. Main body as well as fuse holders are made of molded bakelite. Binding posts are A.A.R. 14-24 standard. Insulating sleeves and caps are provided on all binding posts to eliminate possibility of accidental shorts or physical contact with current carrying parts.

Disconnects are furnished two-pole with individual handles or common handles as illustrated above. Fuses are standard A.A.R. cartridge type, 2" by 9/16" ferrule diameter, of rating of 0-30 amperes as specified.

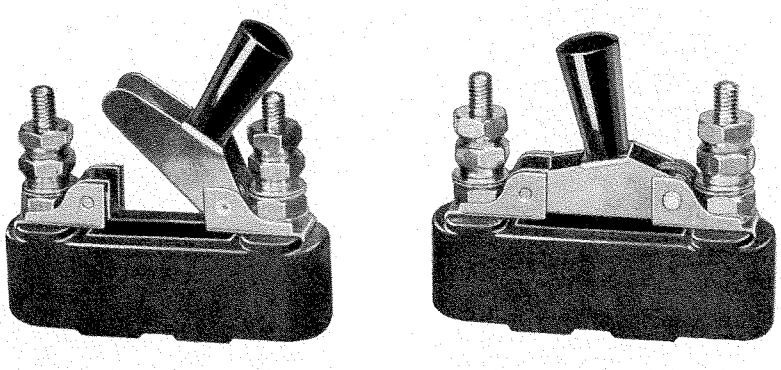
Holes are provided for No. 10 mounting screws.

IF FUSES ARE TO BE FURNISHED SPECIFY RATING UP TO 30 AMPERES MAXIMUM

ORDERING REFERENCE
Specify Plate Number K584, Reference Number and Description
Description: Type 2305 Disconnect Switch

Ref. No.	Description	Piece No.
1	Type 2305 Disconnect switch, individual handle, with fuse	2305-22
2	Type 2305 Disconnect switch, individual handle, without fuse	2305-2
3	Type 2305 Disconnect switch, common handle, with fuse	2305-32
4	Type 2305 Disconnect switch, common handle, without fuse	2305-12
9	Two pole fuse holder only, common handle	90101-62
10	Individual fuse holder, individual handle	90101-61
11	Fuse clip only	90101-55
12	Metal common handle only	90101-72

McKeen Test Switch



The McKeen Test Switch
Single Pole Single Throw

The McKeen Test Switch offers a safe means of taking meter readings at any location without danger of disrupting signal or other circuits.

The McKeen Switch consists essentially of a single pole, single throw switch mounted on a moulded black bakelite A.A.R. terminal block so constructed as to allow mounting in the circuit at any point where meter readings are frequently taken. The maintainer can attach the meter leads to the binding posts before opening the switch and allowing the current to flow through the meter. The switch may then be closed and the leads removed, all of which is accomplished, obviously, without opening any circuit.

Strong springs and heavy wiping action insure perfect contact at the front contact of the switch while a soldered, flexible pigtail provides a solid electrical path in multiple with the hinge at the heel of the switch.

This switch supersedes the No. 0250 McKeen Test Switch as shown on plate M20.

ORDERING REFERENCE
Specify Plate Number K590, Reference Number, and Description

Ref. No.	Description	Piece No.
1	McKeen Test Switch	0250-101

W
RRS

Section

L

Electric Lamps
and
Illuminated Signs

WESTERN RAILROAD SUPPLY COMPANY

MANUFACTURERS

General Offices and Factory
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•

District Offices in

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Denver, Colo.
St. Louis, Mo.
Cleveland, Ohio
Houston, Texas

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1937

Section L

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Switch and Semaphore Lighting Outfits..... L120
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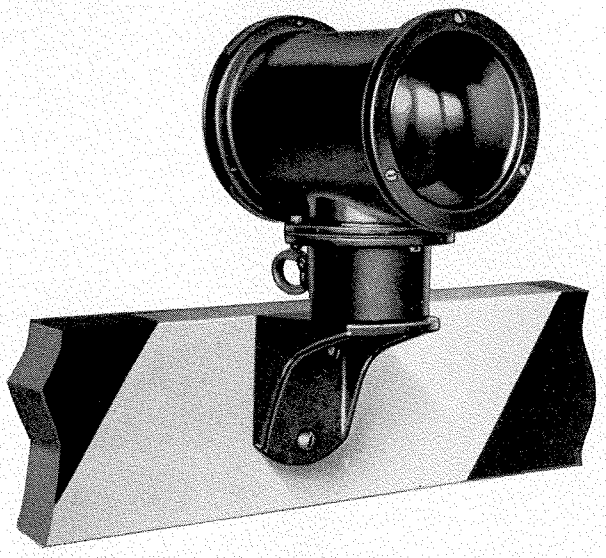
WESTERN RAILROAD SUPPLY COMPANY

Type 1553 Gate Lamp

TWO-WAY INDICATION



The **Type 1553 Gate Lamp** projects a very brilliant beam in both directions along the highway from a single lamp bulb. The filament of the lamp bulb is in exact focus with both of the optical lenses. Excellent day indication is obtained with but a 10 watt lamp.

SPECIFICATIONS

Weight: Two and one-half pounds.
Lenses: 3½" diameter, 2¼" focus, red optical lenses.
Lamp socket: Single contact bayonet base. Lamp bulb not furnished unless specified.
Body: Cast aluminum throughout.

ORDERING REFERENCE

Specify Plate Number L5, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1553 Gate Lamp	1553
	Replacement Parts	
2	Mounting Bracket	1553-3
3	Lens ring	1553–5
4	Lens gasket	1553–6
5	Lamp socket complete with bushing and disc	1553–12
6	3½" diameter, 2¼" focus, red optical lens	
7	Squeeze connector	
8	Single contact bayonet base, S-11 bulb, lamp (Specify voltage and wattage)	

For reflector lens markers and signs for crossing gates see Catalog Section H.

WESTERN RAILROAD SUPPLY COMPANY

Type 1563 Gate Lamp

TWO WAY INDICATION

The **Type 1563 Gate Lamp** is similar to the Type 1553 shown on Plate L5 except that the main body of the lamp is constructed of aluminum tubing and the lamp bulb is assembled already focused and is not adjustable.

SPECIFICATIONS

Weight: One and three-quarter pounds.

Lenses: 3½" diameter, 2¼" focus, red optical lenses; or 3½" diameter, 30° spreadlite optical lenses as specified.

Lamp Socket: Single contact bayonet base. Lamp bulb not furnished unless specified.

Body: Aluminum construction throughout.

ORDERING REFERENCE

Specify Plate Number L6, Reference Number and Description

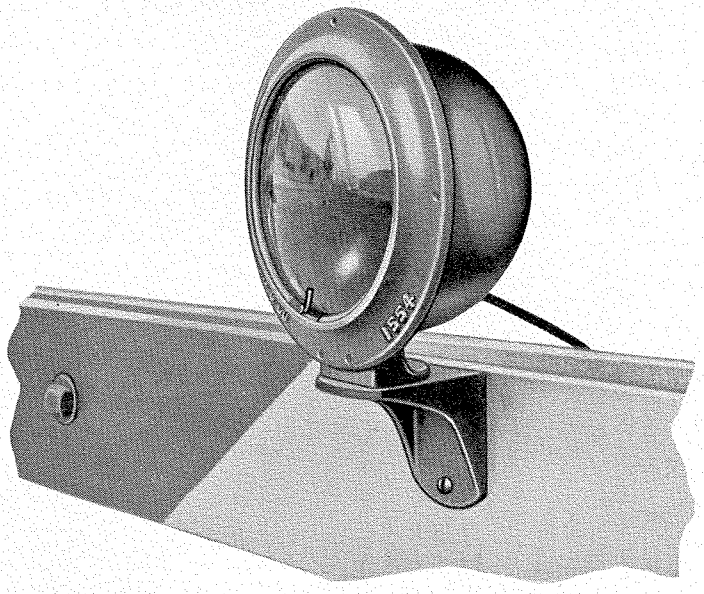
Ref. No.	Description	Piece No.
1	Type 1563 Gate Lamp complete, (furnished with 30° spreadlite lenses unless otherwise specified)	1563
2	3½" diameter 30° spreadlite red optical lens	5324
3	3½" diameter, 2¼" focus, red optical lens	5325
4	Lens gasket	1563-7
5	Lens retaining spring	1563-4

NOTE: For reflector lens markers and signs for crossing gates see Catalog Section "H".

WESTERN RAILROAD SUPPLY COMPANY

Type 1554 Gate Lamp

ONE WAY INDICATION—5¼" ROUNDEL



Type 1554 Gate Lamp is equipped with parabolic mejiradium reflector, single contact bayonet base lamp socket, and plain, red, convex roundel. It projects a very powerful light beam in one direction along the highway with low wattage lamp bulb. A spread roundel can be furnished if specified.

SPECIFICATIONS

Weight: Two and three-quarter pounds.
Roundel: 5¼" diameter, plain, convex, red roundel.
Lamp socket: Single contact bayonet base. Lamp bulb not furnished unless specified.
Reflector: Mejiradium.
Cover: Spun aluminum.
Roundel ring: Cast aluminum.

ORDERING REFERENCE

Specify Plate Number L10, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1554 Gate Lamp	1554
	Replacement Parts	
2	Reflector and clamp	1554–4
3	Lamp socket	1554–5
4	Lens gasket	1554–6
5	5¼" diameter plain, convex, red roundel	
6	Cover glass spring	1028–3
7	Squeeze connector	
8	Single contact bayonet base, S-11 bulb, lamp (Specify voltage and wattage)	

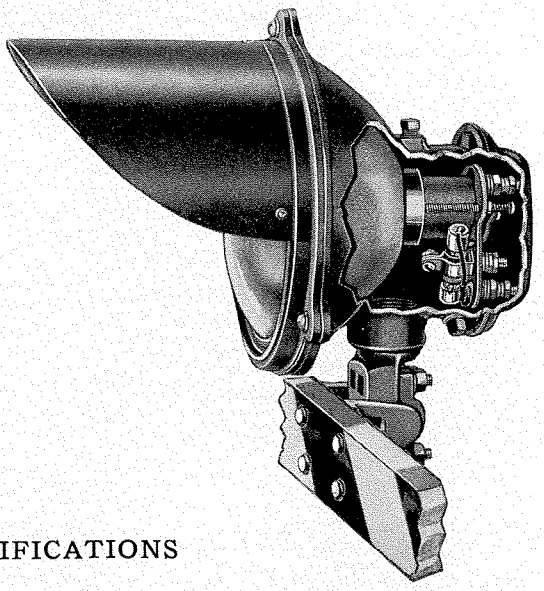
For reflector lens markers and signs for crossing gates see Catalog Section H.

WESTERN RAILROAD SUPPLY COMPANY

Type 1016 Gate Lamp

WITH OR WITHOUT SIDE LIGHTS
WITH OR WITHOUT CIRCUIT CONTROLLER

Type 1016 Gate Lamp can be furnished with or without side lights and with or without a self contained mercury contact circuit controller. The circuit controller can be adjusted to turn lights on or off with a 3° movement of the gate arm. The unit is made for easily adjusting the light beam, and refocusing after replacement of lamp bulb is made unnecessary by the use of a set screw on the socket assembly which insures proper seating of socket when replaced.



SPECIFICATIONS

Weight: Eight pounds.
Roundel: 8⅜" Red 30° Spreadlite. (Can be furnished with word STOP).
Lamp socket: For either single contact bayonet base lamps or medium screw base lamps as specified. Lamp bulbs not furnished unless specified.
Reflector: Mejiradium.
Circuit controller: Self-contained, mercury contact, adjustable.

ORDERING REFERENCE

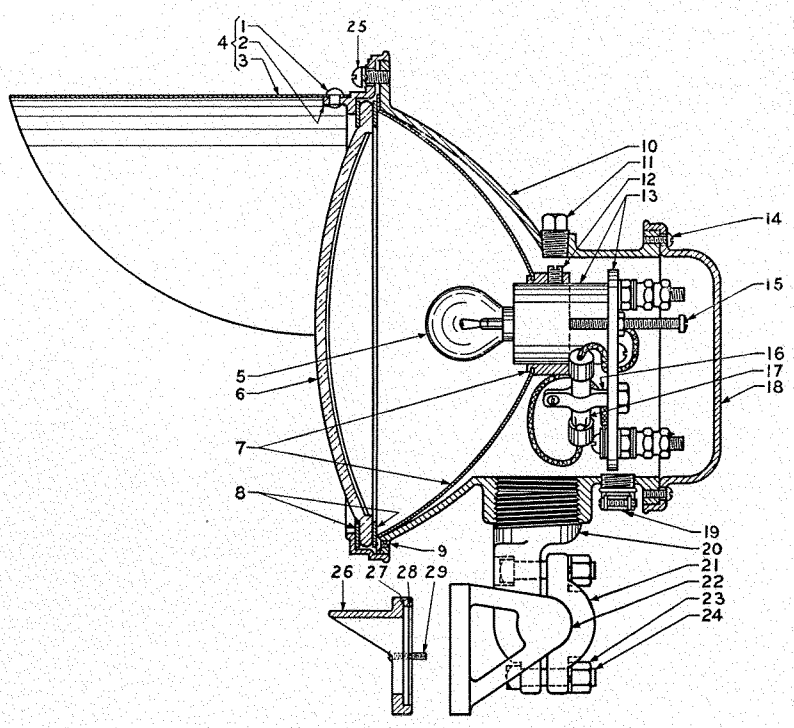
Specify Plate Number L15, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1016 Gate Lamp, with bayonet base lamp socket, without side lights, and without circuit controller	1016–51
2	Type 1016 Gate Lamp, with bayonet base lamp socket, without side lights, and with circuit controller	1016–52
3	Type 1016 Gate Lamp, with bayonet base lamp socket, with side lights, and without circuit controller	1016–53
4	Type 1016 Gate Lamp, with bayonet base lamp socket, with side lights, and with circuit controller	1016–54
5	Type 1016 Gate Lamp, with medium screw base lamp socket, without side lights, and without circuit controller	1016–59
6	Type 1016 Gate Lamp, with medium screw base lamp socket, without side lights, and with circuit controller	1016–60
7	Type 1016 Gate Lamp, with medium screw base lamp socket, with side lights, and without circuit controller	1016–61
8	Type 1016 Gate Lamp, with medium screw base lamp socket, with side lights, and with circuit controller	1016–62

For replacement parts see following page.
For reflector lens markers and signs for crossing gates see Catalog Section H.

Type 1016 Gate Lamp

REPLACEMENT PARTS



ORDERING REFERENCE

Specify Plate Number L16, Reference Number, and Description

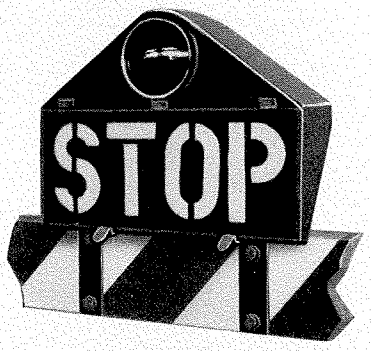
Ref. No.	Description	Piece No.	Ref. No.	Description	Piece No.
1	Copper Rivet		13a	Medium screw base lamp socket assembly	1016–104
2	Door	1016–3	14	Machine screw	
3	Hood	1016–23	15	Machine screw	
4	Assembly of hood and door	1016–102	16	Circuit controller clamp	1016–18
5	S. C. B. B. Lamp bulb (Specify voltage and wattage)		17	Mercury circuit controller tube	1016–16
5a	Medium screw base lamp bulb (Specify voltage and wattage)		18	Back cover	1016–4
6	Red 30° Spreadlite roundel	CL17	19	Squeeze connector	
7	Reflector for lamps without sidelights	1015–29	20	Mounting link	1016–21
7a	Reflector for lamps with sidelights	1015–29A	21	Clamp cap	1016–22
8	Roundel gasket	825	22	Mounting bracket	1016–20
9	Machine screw		23	Hex nut and lock washer	
10	Lamp case for lamps without sidelights	1016–1	24	Bolt	
10a	Lamp case for lamps with sidelights	1016–26	25	Machine screw	
11	Pipe plug		26	Sidelight hood	1016–27
12	Headless set screw		27	Sidelight glass disc	811
13	Bayonet base lamp socket assembly	1016–103	28	Sidelight gasket	818–48
			29	Machine screw	

For reflector lens markers and signs for crossing gates see Catalog Section H.

WESTERN RAILROAD SUPPLY COMPANY

Type 1834 Gate Lamp

RED OPTICAL LENS WITH ILLUMINATED "STOP" WITH OR WITHOUT CIRCUIT CONTROLLER



Type 1834 Gate Lamp includes both an illuminated "STOP" sign and a 4½" diameter red optical lens. A self-contained mercury contact circuit controller may be installed so that the lens and the word "STOP" are illuminated only when the gate arm is in the horizontal position or is moving in or out of that position.

SPECIFICATIONS

Weight: Six pounds.

Lens: 4½" diameter, optical red lens.

Wording: Illuminated cut-out letters, opalescent sand-blasted glass; 5" high, with 1" stroke.

Lamp socket: Medium screw base. Lamp bulb not furnished unless specified.

Case: Sheet aluminum.

Circuit controller: Self-contained, mercury contact, adjustable.

ORDERING REFERENCE

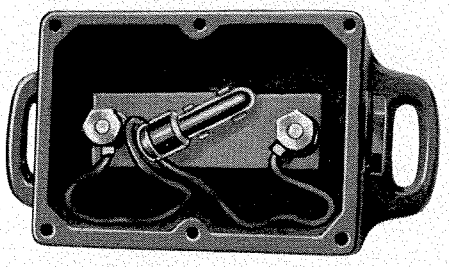
Specify Plate Number L20, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1834 Gate Lamp without circuit controller	1834
2	Type 1834 Gate Lamp with circuit controller	1834A
	Replacement Parts	
3	Medium screw base lamp socket	1834–8
4	Medium screw base lamp bulb (Specify voltage and wattage)	
5	Porcelain outlet bushing	
6	Mercury contact circuit controller tube complete with mounting clip	1016–29
7	4½" diameter red optical lens	
8	Lens retaining ring	1834–6
9	Sandblasted glass for cut-out letters	1834–3

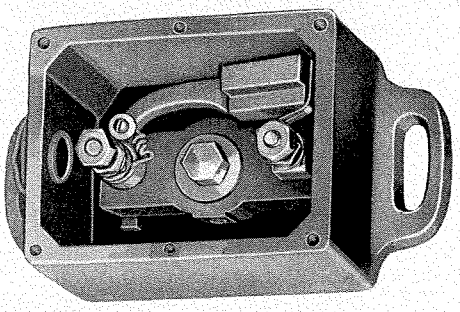
For reflector lens markers and signs for crossing gates see Catalog Section H.

Type 1005 Circuit Controllers

MERCURY CONTACT OR MECHANICAL CONTACT



Mercury Contact
Circuit Controller with cover removed



Mechanical Contact
Circuit Controller with cover removed

The **Mercury Circuit Controller** is in great favor where a gravity contact control is desired and the current broken is nominally small. It is easily adjustable to make lights go on or off with a 3° movement of the gate arm.

Where the Type 1016 and 1834 Gate Lamps are used singly on a gate arm the mercury contact can be installed within the lamp itself. Where two or more of these lamps are used it is more economical and efficient to use a single controller at the fulcrum of the arm.

The **Mechanical Circuit Controller** is designed to be mounted at the fulcrum of the gate arm. The movable element is so arranged that contact is made as the crossing gate moves toward the horizontal position. It operates on about a 20° movement.

ORDERING REFERENCE

Specify Plate Number L30, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1005 Mercury Contact Circuit Controller	1005
2	Type 1005 Mechanical Contact Circuit Controller	1005-52
	Replacement Parts	
3	Cover only	1005-13
4	Bakelite terminal block for Mercury Contact Controller	1005-60
4a	Bakelite terminal block for Mechanical Contact Controller	1005-61
5	Mercury circuit controller tube complete with mounting clip	1016-29
6	Contact lever complete for Mechanical Circuit Controller	1005-63
7	Silver contact only for contact lever for Mechanical Circuit Controller	1005-64
8	Stationary contact complete for Mechanical Circuit Controller	1005-65
9	Lead wire only for Mechanical Circuit Controller	1005-66

WESTERN RAILROAD SUPPLY COMPANY

Type 1553 Marker Light

Type 1553 Marker Light shows a powerful night indication in both directions along the highway even when equipped with only a 5 watt low voltage lamp bulb. It is furnished with a junction box for splicing socket lead wires and feed wires after installation on the mast.

SPECIFICATIONS

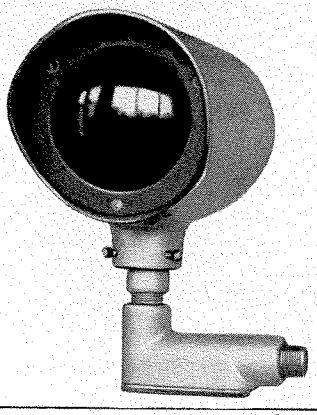
Lens: 3½" optical lens, 2½" focus; red or amber as specified.
Mounting: Unilet and pipe nipple with ⅜" pipe thread.
Adjustment: Adjustable in both horizontal and vertical planes.
Lamp socket: Single contact bayonet base. Lamp bulb not furnished unless specified.

ORDERING REFERENCE

Specify Plate Number L40, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1553 Marker Light with red lens	1553–20
2	Type 1553 Marker Light with amber lens	1553–20
	Replacement Parts	
3	3½" diameter, 2½" focus red optical lens	
4	3½" diameter, 2½" focus amber optical lens	
5	Lens ring	1553–5
6	Lens ring gasket	1553–6
7	Lamp socket complete with bushing and disc	1553–12
8	Unilet body only	
9	Unilet cover only	
10	Lock nut	
11	⅜" close nipple	
12	Single contact bayonet base, S-11 bulb, lamp (Specify voltage and wattage)	

For reflector lens markers see Catalog Section H.



Type 678 Marker Light

Type 678 Marker or Pilot Light shows light in both directions along the highway from one lamp bulb. It mounts in a hole in the mast tapped for ¾" standard pipe thread. A junction box provides for soldered and taped joints between socket leads and feed wires.

SPECIFICATIONS

Lens: 4½" spreadlite, red or amber as specified.

Lamp socket: Double or single contact bayonet base. Lamp bulb not furnished unless specified.

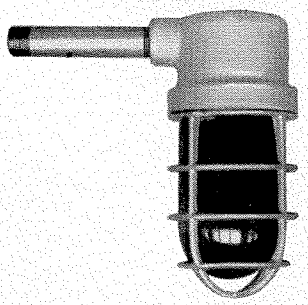
Mounting: Condulet and close nipple with ¾" pipe thread.

Adjustment: Adjustable in both horizontal and vertical planes.

ORDERING REFERENCE

Specify Plate Number L45, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 678 Marker Light with red lens and single contact bayonet base lamp socket	Dwg. 678
2	Type 678 Marker Light with amber lens and single contact bayonet base lamp socket	Dwg. 678
3	Type 678 Marker Light with red lens and double contact bayonet base lamp socket	Dwg. 678A
4	Type 678 Marker Light with amber lens and double contact bayonet base lamp socket	Dwg. 678A
	Replacement Parts	
5	Red lens only	
6	Amber lens only	
7	Single contact bayonet base lamp only (Specify voltage and wattage)	
8	Double contact bayonet base lamp only (Specify voltage and wattage)	



Type 675 Marker Light

Type 675 Marker or Pilot Light is a vaporproof fitting suitable for use with medium screw base lamps. Wire leads fasten to socket by means of screws after the unit has been installed on the mast.

SPECIFICATIONS

Globe: Weatherproof, red or amber as specified.

Lamp socket: For medium screw base lamps. Lamp bulb not furnished unless specified. Lamp bulbs up to 100 watts can be used.

Mounting: 5" pipe nipple with ¾" pipe thread.

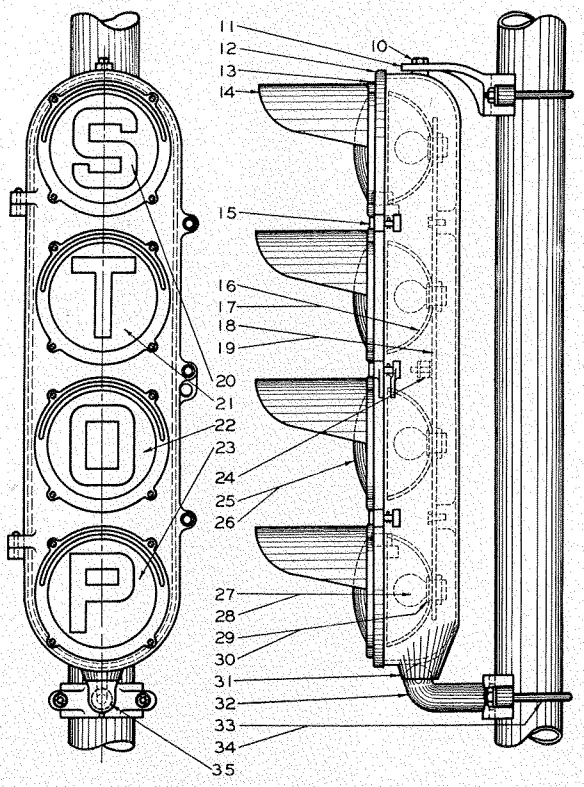
ORDERING REFERENCE

Specify Plate Number L45, Reference Number, and Description

Ref. No.	Description	Piece No.
10	Type 675 Marker Light with red globe	Dwg. 675
11	Type 675 Marker Light with amber globe	Dwg. 675
	Replacement Parts	
12	Wire guard only	
13	Medium screw base lamp bulb only (Specify voltage and wattage)	
14	Amber globe only	
15	Red globe only	

For reflector lens markers see Catalog Section H.

Illuminated STOP Units
Types 2800 and 2801



The **Type 2800 Illuminated STOP Unit** is equipped with bayonet base lamp sockets whereas the Type 2801 Unit is furnished for use with medium screw base lamps. Bayonet base lamp sockets are single contact.

The **Types 2800 and 2801 STOP Units** are single cast iron units containing four illuminated letters reading S, T, O, and P. Each letter is illuminated by an individual lamp and parabolic glass reflector. Sand-blasted glass or metal cutout letters as desired, can be furnished with either unit.

The door can be secured by an ordinary A.A.R. socket wrench but additional provision is made for locking by padlock.

Adaptors and U-Bolts are furnished for mounting on 3½″, 4″, or 5″ I.D. pipe post, as required.

For ordering reference see next page.

WESTERN RAILROAD SUPPLY COMPANY

Illuminated STOP Units

NOTE: Red plain convex roundel furnished unless otherwise specified.

ORDERING REFERENCE
Specify Plate Number L50, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 2800 STOP Unit with bayonet base lamps and with sand-blasted glass letters; for mounting on 4″ I.D. pipe post	2800–2
1a	Type 2800 STOP Unit with bayonet base lamps and with metal cutout letters; for mounting on 4″ I.D. pipe post	2800–5
2	Type 2801 STOP Unit with medium screw base lamps and with sand-blasted glass letters; for mounting on 4″ I.D. pipe post	2801–2
2a	Type 2801 STOP Unit with medium screw base lamps and with metal cutout letters; for mounting on 4″ I.D. pipe post	2801–5
3	Type 2800 STOP Unit with bayonet base lamps and with sand-blasted glass letters; for mounting on 5″ I.D. pipe post	2800–3
3a	Type 2800 STOP Unit with bayonet base lamps and with metal cutout letters; for mounting on 5″ I.D. pipe post	2800–6
4	Type 2801 STOP Unit with medium screw base lamps and with sand-blasted glass letters; for mounting on 5″ I.D. pipe post	2801–3
4a	Type 2801 STOP Unit with medium screw base lamps and with metal cut-out letters; for mounting on 5″ I.D. pipe post	2801–6
5	Type 2800 STOP Unit with bayonet base lamps and with sand-blasted glass letters; for mounting on 3½″ I.D. pipe post	2800–1
5a	Type 2800 STOP Unit with bayonet base lamps and with metal cutout letters; for mounting on 3½″ I.D. pipe post	2800–4
6	Type 2801 STOP Unit with medium screw base lamps and with sand-blasted glass letters; for mounting on 3½″ I.D. pipe post	2801–1
6a	Type 2801 STOP Unit with medium screw base lamps and with metal cut-out letters; for mounting on 3½″ I.D. pipe post	2801–4
	Replacement Parts	
10	Cap screw with iron washer	
11	Top support	2805
12	Door	2802–1
13	Roundel retaining ring	2954
14	Hood	2821
15	Locking bolt with theft resisting cup washer, iron washer, and cotter pin	2806–1
16	Parabolic glass reflector (for Type 2800 Unit only)	832
17	Parabolic glass reflector (for Type 2801 Unit only)	2850–10
18	Reflector support (for Type 2800 Unit only)	2810
19	Reflector support (for Type 2801 Unit only)	2807
20	Sand-blasted glass letter "S"	2856
20a	Metal cutout letter "S"	1806–626
21	Sand-blasted glass letter "T"	2857
21a	Metal cutout letter "T"	1806–627
22	Sand-blasted glass letter "O"	2858
22a	Metal cutout letter "O"	1806–628
23	Sand-blasted glass letter "P"	2859
23a	Metal cutout letter "P"	1806–629
24	Terminal block	1056–10
25	Red convex roundel	
26	Red flat roundel	
27	Bayonet base lamp bulb (Specify voltage and wattage)	
28	Medium screw base lamp bulb (Specify voltage and wattage)	
29	Assembly of socket and bushing for Type 2800 Unit	2850–1
30	Assembly of socket and bushing for Type 2801 Unit	2820–1
31	Housing	2803–1
32	Bottom bracket	2804
33	U-bolt for 4″ I.D. pipe post complete with nuts and washers	1207–1
34	U-bolt for 5″ I.D. pipe post complete with nuts and washers	1207–2
34a	U-bolt for 3½″ I.D. pipe post complete with nuts and washers	1207–3
35	Seal packing ring	2864

WESTERN RAILROAD SUPPLY COMPANY

No Turn Sign

FOR USE ON STREETS PARALLEL TO RAILROAD TO PREVENT RIGHT OR LEFT TURN ACROSS TRACKS

Many vexing protection problems are easily solved by the use of **"NO RIGHT TURN"** or **"NO LEFT TURN"** signs which permit highway traffic to move over intersections on streets paralleling railroads yet prevent its turning onto the railroad tracks. The wording is visible only when illuminated on the approach of a train.

SPECIFICATIONS

Dimensions: 14½" x 16".

Letters: 3" with ½" stroke, red glass, black background.

Lamp sockets: Eight single contact bayonet base. Lamp bulbs not furnished unless specified.

Mounting: U-Bolts with nuts and washers are furnished for mounting on 3½", 4" or 5" I.D. pipe post unless otherwise specified.

ORDERING REFERENCE

Specify Plate Number L55, Reference Number, and Description

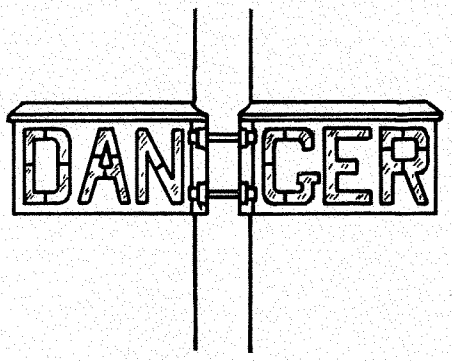
Ref. No.	Description	Piece No.
1	Type 3114 NO RIGHT TURN Sign complete for mounting on 4" I.D. pipe	3114R–4
2	Type 3114 NO RIGHT TURN Sign complete for mounting on 3½" I.D. pipe	3114R–3
3	Type 3114 NO RIGHT TURN Sign complete for mounting on 5" I.D. pipe	3114R–5
4	Type 3114 NO LEFT TURN Sign complete for mounting on 4" I.D. pipe	3114L–4
5	Type 3114 NO LEFT TURN Sign complete for mounting on 3½" I.D. pipe	3114L–3
6	Type 3114 NO LEFT TURN Sign complete for mounting on 5" I.D. pipe	3114L–5
	Replacement Parts	
10	Red glass only. Specify "NO RIGHT TURN" or "NO LEFT TURN"	3114–10
11	Lamp socket only	2850–1
12	Single contact bayonet base, S-11 bulb, lamp only	

For signal assembly complete with this sign see Plate D405
For non-illuminated signs see Catalog Section H

WESTERN RAILROAD SUPPLY COMPANY

Type 1909 Illuminated DANGER Sign

TWO-PIECE—TWO-WAY INDICATION



At many locations and in several states it is necessary to provide electrically lighted "DANGER" signs. Where it is desirable to mount such a sign on a pipe mast and to reduce projection to a minimum, the **Type 1909 Illuminated DANGER Sign** is especially suitable.

SPECIFICATIONS

Dimensions: Approximately 36″ x 8″ when mounted.

Letters: 7″ high with 1¼″ stroke; ruby glass.

Lamp sockets: Four medium screw base, unless otherwise specified. Lamp bulbs are not furnished unless specified.

Mounting: Bolts, nuts, and washers are furnished for mounting on 4″ I.D. pipe unless otherwise specified.

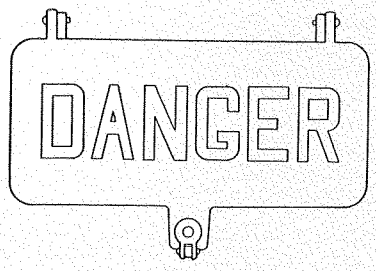
ORDERING REFERENCE

Specify Plate Number L60, Reference Number, and Description

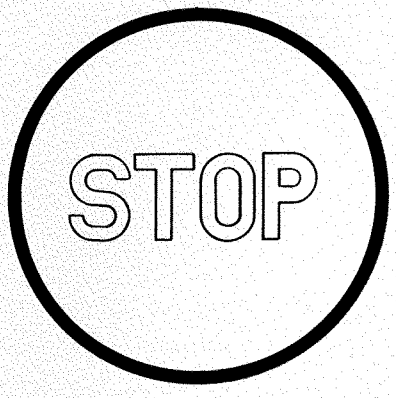
Ref. No.	Description	Piece No.
1	Type 1909 Illuminated DANGER Sign for mounting on 4″ I. D. pipe post	1909
	Replacement Parts	
2	Ribbed wire glass, ruby colored	1911
3	Medium screw base lamp socket	
4	Medium screw base lamp bulb (Specify voltage and wattage)	
5	Housing only, reading DAN on one side and GER on other	1909–10

For non-illuminated signs see Catalog Section H.

Illuminated Signs



Type 3120
Letters Always Visible
Type 3125
Letters Visible
Only When Illuminated



Type 3100
Letters Always Visible
Type 3105
Letters Visible
Only When Illuminated

Type 3120, 9″ by 19½″, has letters 4″ high with ½″ stroke outlined in black and always visible. The glass in the letters is translucent. Type 3125 is similar to Type 3120 except that the letters are not outlined and therefor only visible when illuminated. The glass in Type 3125 is red.

Type 3100, 21″ in diameter, has letters 4⅞″ high with ⅞″ stroke outlined in black and always visible. The glass in the letters is translucent. Type 3105 is similar to Type 3100 except that the letters are not outlined and therefor only visible when illuminated. The glass in Type 3105 is red.

All four Types are furnished with four parabolic glass reflectors and four single contact bayonet base lamp sockets. Lamp bulbs are not furnished unless specified.

U-bolts complete with nuts and washers are provided for mounting on 4″ I.D. pipe unless otherwise specified.

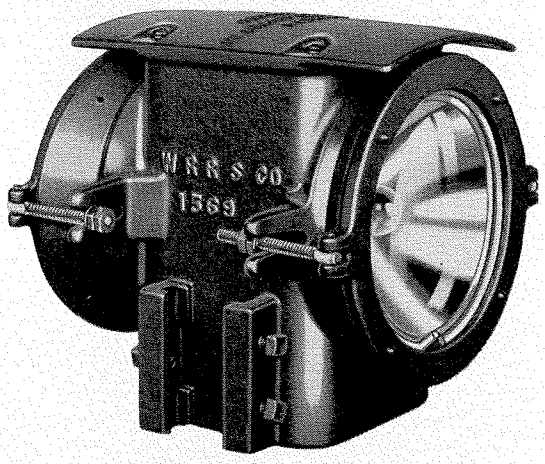
ORDERING REFERENCE
Specify Plate Number L65, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 3120 Illuminated DANGER Sign for mounting on 4″ I.D. pipe post	3120
2	Type 3125 Illuminated DANGER Sign for mounting on 4″ I.D. pipe post	3125
3	Type 3100 Illuminated STOP Sign for mounting on 4″ I.D. pipe post	3100
4	Type 3105 Illuminated STOP Sign for mounting on 4″ I.D. pipe post	3105
	Replacement Parts	
5	Translucent glass only	3103–1
6	Red glass only	3109
7	Parabolic glass reflector only	
8	Lamp socket only	
9	Single contact bayonet base, S-11 bulb, lamp (Specify voltage and wattage)	

For non-illuminated signs see Catalog Section H.

Type 1569 Adjustable Train Order Lamp

CAST IRON



The Type 1569 Train Order Lamp is of cast iron and as such is more durable and withstands the ravages of gases and the elements better than a sheet metal lamp. Type 1569 Lamp is the simplest compact arrangement yet devised for the lighting of train order signals. It is constructed to permit easy access for inspection or renewal of lamp bulbs.

Each projection unit, consisting of mejiradium reflector, single contact bayonet base lamp socket, and clear, convex cover glass, is adjustable in the vertical plane through 10 degrees and in the horizontal plane through 20 degrees. Light beams may thus be aligned to compensate for curves or grades approaching the location of the train order signal.

Lamp bulbs are not furnished unless specified.

Maximum over all length 9″ with projection units adjusted to maximum angles.

ORDERING REFERENCE

Specify Plate Number L70, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1569 Train Order Lamp	1569
	Replacement Parts	
11	Cast iron lamp housing only	1569–1
12	Cast iron cover only	1569–2
13	Adjustable projection unit with reflector and cover glass complete	1569–11
14	Projection unit body only	1569–3
15	Reflector and socket unit only	1569–12
16	Projection unit front ring with eyebolts and nuts	1569–13
17	Eyebolt only	1569–5
18	Clear convex cover glass	
19	Cover glass retaining spring only	1028–3
20	Single contact bayonet base, S-11 bulb, lamp only (Specify voltage and wattage)	

WESTERN RAILROAD SUPPLY COMPANY

Type 1568 Electric Semaphore Lamp

A. A. R. SIGNAL SECTION, DRAWING 1446

Type 1568 Electric Semaphore Lamp is of cast iron construction perfectly machined and fitted to be sealed from the effects of the elements. It is designed to meet the specifications of A. A. R. Signal Section, Drawing 1446.

It is equipped with glass margin mirror reflectors and 5⅜" clear glass roundels, flat or convex as specified. Lamp sockets are for use with single contact bayonet base lamps.

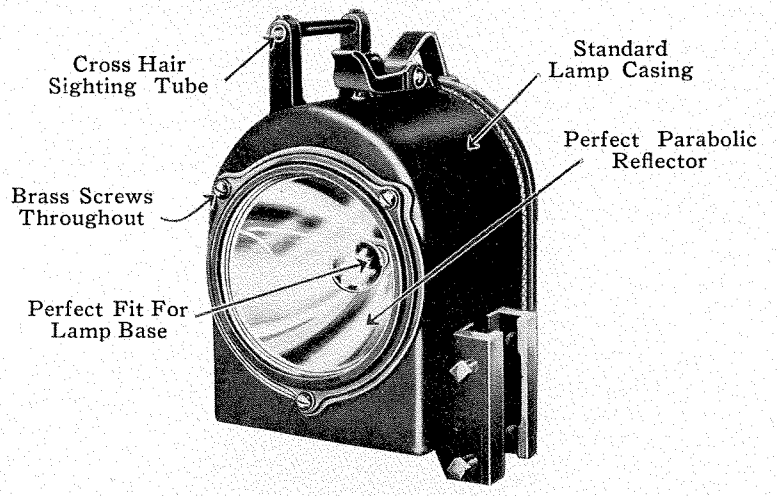
Lamp bulbs are not furnished unless specified.

ORDERING REFERENCE

Specify Plate Number L75, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1568 Electric Semaphore Lamp complete with convex roundel	1568–1
2	Type 1568 Electric Semaphore Lamp complete with flat roundel	1568–2
	Replacement Parts	
10	Clear convex roundel	
11	Clear flat roundel	
12	Single contact bayonet base lamp socket	1568–24
13	Lamp bracket	1568–14
14	Mangin mirror reflector	
15	Roundel Gasket	1568–18
16	Single contact bayonet base, S-11 bulb, lamp (Specify voltage and wattage)	

Type QARA Lamp



This Lamp has a cast iron housing and is doubly-sealed (practically hermetically) from the effects of the elements. It embodies the most advanced features in modern semaphore lamp construction. Every lamp is equipped with a cross-hair sighting tube which also serves as a handle. It is furnished with a high lustre finish metal reflector.

The A.A.R. specifications provide that single contact lamp bulbs shall be standard, unless double contact bulbs are specified. This lamp is furnished with a single contact bayonet base lamp socket unless otherwise specified.

Lamp bulbs are not furnished unless specified.

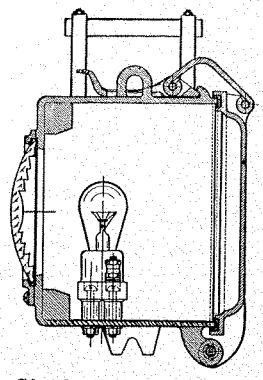
ORDERING REFERENCE

Specify Plate Number L80, Reference Number, and Description

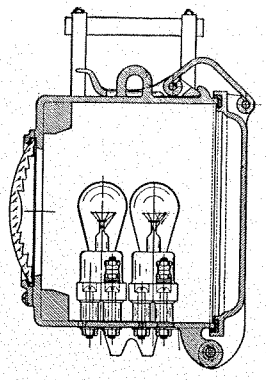
Ref. No.	Description	Piece No.
1	Type QARA Lamp	1003-51
	Replacement Parts	
10	Case complete (does not include reflector or lamp socket assembly)	1003-63
11	Reflector unit complete with socket and terminals	1003-62
12	Housing casting only	1003-1
13	Cover only	1003-2
14	Latch only	1003-3
15	Latch spring only	1003-5
16	Packing for door	1003-33
17	Clear convex cover glass	
18	Gasket	1000-116
19	Cross-hair sighting tube	1003-6
20	Single contact bayonet base, S-11 bulb, lamp only	

Type QARA Lamps

FOR INTERLOCKING PLANTS



Single Lamp Socket Screw Base S-14 Bulb Type



Double Lamp Socket Screw Base S-14 Bulb Type

These lamps are arranged for medium screw base lamps having S-14 bulb. The socket is of special design which provides a spring friction means of securing the lamp against vibrating loose. Each lamp socket is equipped with Standard A.A.R. Terminals for connection. These lamps are especially desirable where 110 volt supply is used. Unless otherwise specified these lamps are equipped with a clear optical lens.

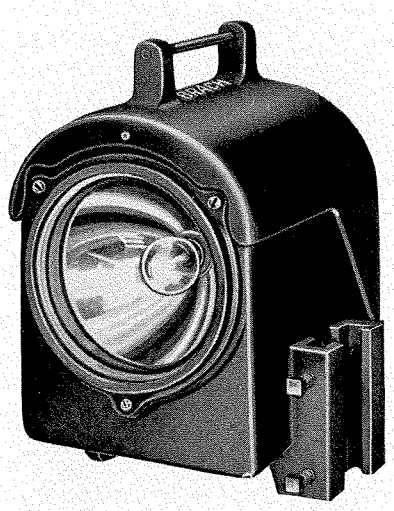
Lamp bulbs are not furnished unless specified.

ORDERING REFERENCE

Specify Plate Number L85, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type QARA Lamp for interlocking plants with single lamp socket	1009–51
2	Type QARA Lamp for interlocking plants with double lamp socket	1009–52
	Replacement Parts	
10	Case complete (does not include lamp socket)	1009–63
11	Lamp socket unit complete	R3901–A
12	Main case casting only, not drilled for lamp sockets	1003—1
13	Cover only	1003–2
14	Latch only	1003–3
15	Latch spring only	1003–5
16	Door packing	1003–33
17	Clear glass optical lens	1000–116
18	Lens gasket	
19	Medium screw base, S-14 bulb, lamp	

Type Q Lamp



Type Q Lamp has a two-piece casing with chain connecting the cover to the body casing of the lamp and a brass latch arranged for locking.

The Type Q Lamp conforms to the general description of the Type QARA with the exception of the two-piece casing and certain minor details in the method of supporting the reflector and bulb unit.

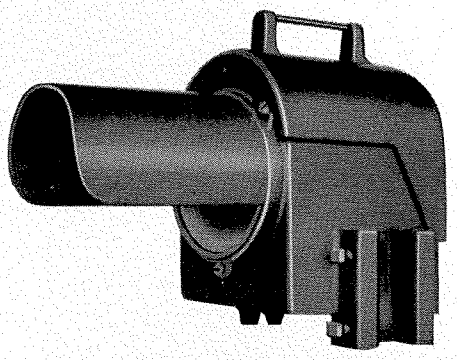
All other features explained in the description of the QARA are embodied in this lamp. Lamp bulbs are not furnished unless specified.

ORDERING REFERENCE

Specify Plate Number L90, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type Q Lamp complete	1001
	Replacement Parts	
10	Case complete (Does not include reflector or socket assembly)	1001–63
11	Complete reflector unit (includes socket)	1001–62
12	Main case casting	1001–1
13	Cover only	1001–2
14	Gasket	1000–116
15	Clear convex roundel	
16	Handle	1001–12
17	Hasp only	1001–3
18	Chain only	
19	Single contact bayonet base, S-11 bulb, lamp only	

Type S Marker Lamp



The Type S Marker Lamp embodies all of the features of the Type Q Semaphore Lamp and differs only in so far as it has a protecting hood and is further provided with a roundel. The lamp is furnished with either a glass or mejiradium parabolic reflector or may be furnished without any reflector at all. Any color roundel can be furnished; if no particular roundel is specified, a clear roundel will be furnished with lamps using a reflector. A lunar white optical lens will be furnished with lamps not equipped with reflector. Roundels will be spreadlite unless otherwise specified.

In addition to the advantages of the reflector and bulb combination unit, the use of the spreadlite roundel gives this lamp a very wide angle light beam. Lamp socket is single contact bayonet base with lamps with reflectors. Lamps without reflectors are furnished with medium screw base socket.

Lamp bulbs are not furnished unless specified.

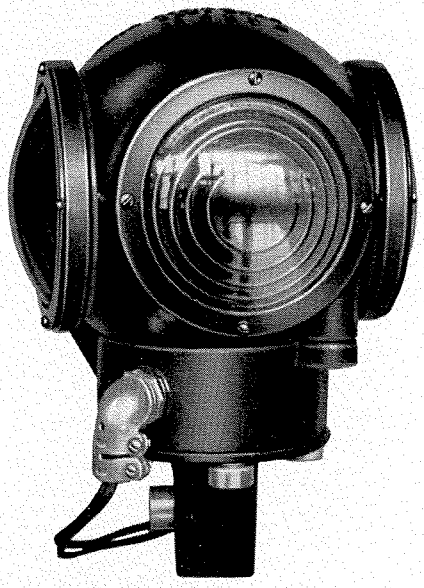
ORDERING REFERENCE

Specify Plate Number L95, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type S Marker Lamp with parabolic glass reflector	1008–A
2	Type S Marker Lamp with mejiradium reflector	1008–B
3	Type S Marker Lamp without reflector, for medium screw base lamp socket	1008–L
	Replacement Parts	
11	Glass reflector unit complete with socket assembly	1001–72
12	Mejiradium reflector unit complete with socket assembly	1001–62
13	Lamp socket assembly for medium screw base lamps	R3901–A
14	Cover only	1001–2
15	Spreadlite roundel (as specified)	
16	Lunar white lens only	
17	Lens gasket	1000–116
18	Handle only	1001–12
19	Single contact bayonet base, S-11 bulb, lamp only (Specify voltage and wattage)	
19a	Medium screw base, S-14 bulb, lamp only (Specify voltage and wattage)	

WESTERN RAILROAD SUPPLY COMPANY

Type 1870 Cast Iron Electric Switch Lamp



Type 1870 Electric Switch Lamp can be furnished to fit any switch stand staff as specified on order.

This lamp is especially suitable for use with the Switch Lighting Outfits as described on Plate L120.

The red lenses are 4½″ in diameter with 3″ focus. The green lenses are 4⅛″ in diameter with 2¾″ focus. Both are of fluted design, especially manufactured for electric illuminant. Because of difference in size no error in installation can be made.

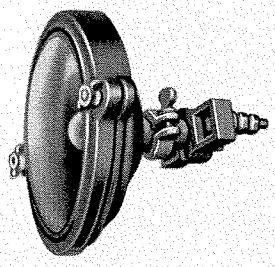
Lamp bulbs are not furnished unless specified. Lamp socket is for single contact bayonet base, S-11 bulb, lamp, having 1¼″ L.C.L.

ORDERING REFERENCE

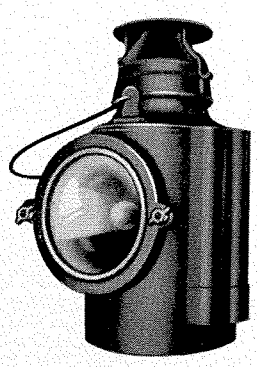
Specify Plate Number L100, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1870 Switch Lamp complete (Specify dimensions of switch stand staff)	1870
	Replacement Parts	
2	4½″ diameter red fluted lens only	
3	4⅛″ diameter green fluted lens only	
4	Lens ring only for red lens	1870–5
5	Lens ring only for green lens	1870–6
6	Gasket for red lens	1870–7
7	Gasket for green lens	1870–8
8	Lamp socket and bushing	1553–8
9	Single contact bayonet base lamp bulb only (Specify voltage and wattage)	

Type 1028 Electric Lamp Adaptor



Type 1028 Adaptor



Semaphore Lamp Equipped with Type 1028 Adaptor

This unit is readily attached to any standard sheet metal oil burning semaphore lamp to convert it into an electric semaphore light. When 10 watt or 18 watt lamps are used a very good daytime light is obtained, comparable with color light signals.

As in the Type QARA, the lamp and reflector are sealed against gases, dirt, insects, and moisture, but the unit is readily accessible for changing bulbs or for focusing. All parts are built of heavy non-rusting material. Connections are made to standard A.A.R. binding posts. To attach this adaptor to the oil lamp, simply remove the present lens and lens ring, then slip the Adaptor Unit into place through the front of the lamp, retaining the unit in place by a new lens ring furnished with the adaptor.

Lamp bulb is not furnished unless specified. The lamp socket is for single contact bayonet base, S-11 bulb, lamp.

ORDERING REFERENCE

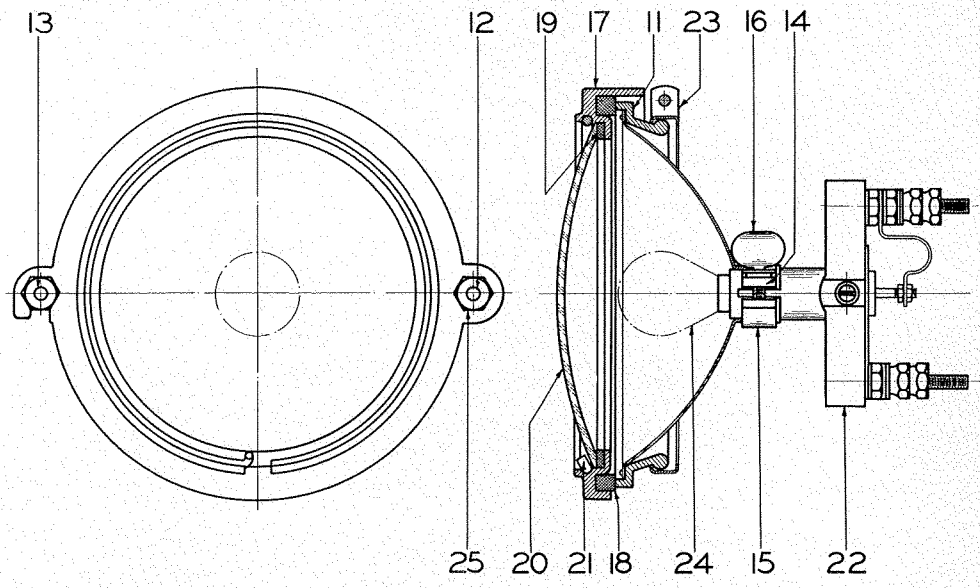
Specify Plate Number L105, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1028 Adaptor for replacing 5″ lens	1028–A
2	Type 1028 Adaptor for replacing 5⅜″ lens	1028–B

For replacement parts see following page.

Type 1028 Electric Lamp Adaptor

(Continued)



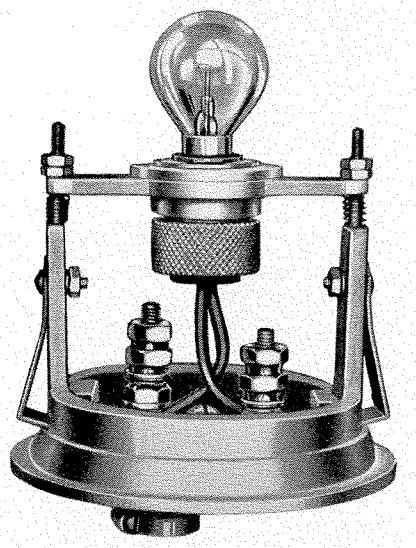
For adaptor complete see preceding page.

ORDERING REFERENCE

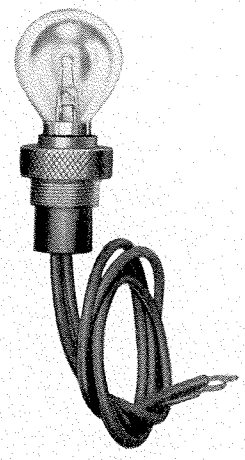
Specify Plate Number L105, Reference Number, and Description

Ref. No.	Description	Piece No.
11	Reflector complete with mounting ring, studs, and clamps (for 5″ lens)	1028–25A
11a	Reflector complete with mounting ring, studs, and clamps (for 5⅜″ lens)	1028–25B
12	Stud	1028–23
13	Stud	1028–22
14	Clamp	1000–12
15	Clamp	1000–11
16	Thumb screw with plain washer and lock washer	
17	Cover glass ring with packing and gasket	1028–26
18	Packing	
19	Gasket	1028–21
20	Clear convex roundel	
21	Roundel retaining spring	1028–3
22	Lamp socket and terminal block assembly	1003–59
23	Clamp ring complete with screw and nut (for 5″ lens)	1028–15
23a	Clamp ring complete with screw and nut (for 5⅜″ lens)	1028–18
24	Single contact bayonet base, S-11 bulb, lamp (Specify voltage and wattage)	
25	Binding nut	10706

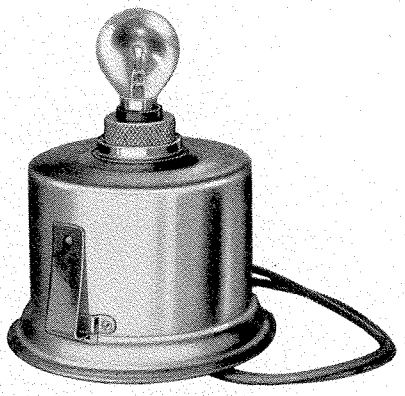
Electric Lamp Adaptors



Type 1832



Type 875-50



Type 875-50
Installed

Type 1832 Switch Lamp Adaptor is applicable to the older types of oil burning switch lamps where the fount is inserted from the bottom. The lamp socket is cushioned against shock.

Type 875-50 Adaptor is designed to screw into the threaded insert which held the burner in the oil fount, thereby converting the oil lamp into an electric lamp suitable for modern switch and semaphore lighting. The vertical position of the lamp filament is adjustable.

Lamp bulbs are not furnished unless specified.

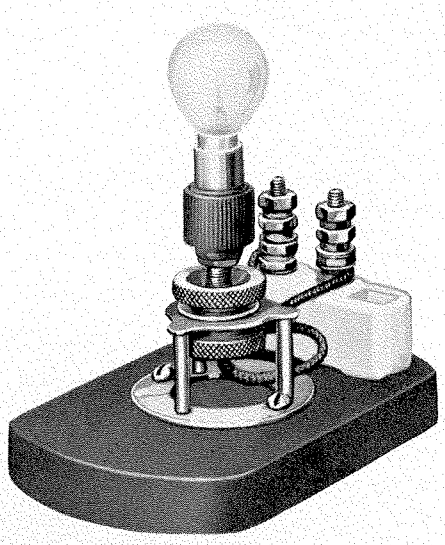
ORDERING REFERENCE

Specify Plate Number L110, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1832 Electric Lamp Adaptor	1832
2	Type 875–50 Electric Lamp Adaptor (Specify type of fount or diameter and number of threads per inch)	875–50
3	Single contact bayonet base, S-11 bulb, lamp only	

WESTERN RAILROAD SUPPLY COMPANY

Type 1801 Pedestal Lamp Adaptor



Type 1801 Pedestal Lamp Adaptor

Where nearly new oil lamps become obsolete because of the desire to use electrical illumination for semaphore or switch signals, it is economical to use the oil lamp housings and discard only the founts. For this purpose we have designed the adaptor illustrated above to mount in the oil lamp case in place of the fount.

The focusing of the lamp, with relation to the lens, is easily accomplished. The adjustments are sufficient in every direction to compensate for any irregularities. The adjuster may be removed from the base and mounted in the A.A.R. cast iron lamp case after the oil lamp housing has become useless. This additional economy is worthy of consideration.

Lamp bulbs are not furnished unless specified.

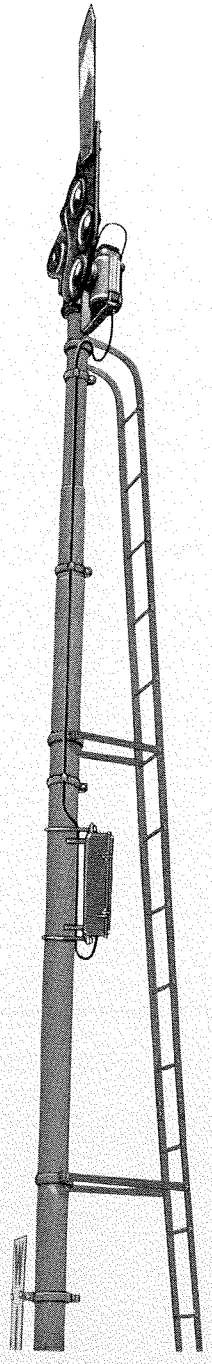
In ordering, specify A.A.R. oil lamp bodies, if used, or height and size of founts, if other lamp bodies are used.

ORDERING REFERENCE

Specify Plate Number L115, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1801 Pedestal Lamp Adaptor complete with base and terminal block (Specify A. A. R. oil lamp body, or height and size of fount if other lamp body is used)	1801
2	Type 1801 Pedestal Lamp Adaptor less base and terminal block	1810
3	Single contact bayonet base, S-11 bulb, lamp (Specify voltage and wattage)	

Switch and Semaphore Lighting Outfits



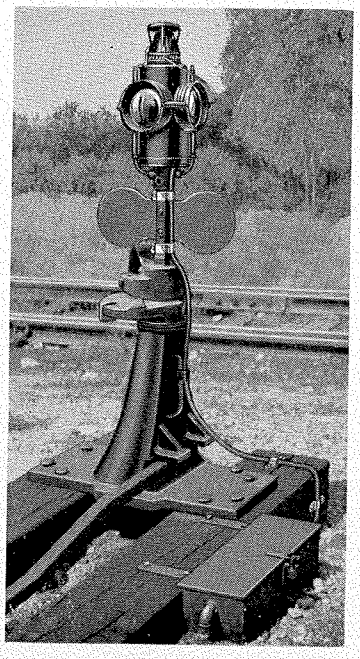
The Western Railroad Supply Company Switch and Semaphore Lighting Outfits provide an economical means of changing from oil to electric lighting at locations where commercial current is not available.

The Outfits include any one of the several adaptors or lamps shown on the preceding pages of this catalog section. Four air-depolarized batteries are furnished with sufficient armoured cable or Okocord (two conductor No. 14) for installation.

A special 2.7 volt 150-m.a. lamp is part of each outfit. This lamp bulb has a life of 4000 hours (approximately 7 months), with less than 5 per cent burning out in service, if powered by 4 cells of No. 1517 air-depolarized dry cells, connected in series multiple to give three volts. The battery cells also have a capacity for 4000 hours of continuous lighting. Due to the characteristics of the special lamp bulb and the air-depolarized batteries, both can be changed out together, thereby reducing maintenance to a minimum.

At the left is shown a typical installation of the Type 1840 Lighting Outfit; at the right, below, is an installation of the Type 1830 Outfit.

Due to the fact that the various adaptors are designed so that they can be furnished for use with many different oil lamps, certain information is necessary when ordering lighting outfits so that no delay will be experienced in filling orders. Refer to the page on which the particular adaptor or lamp is described and be sure to include all information asked for.

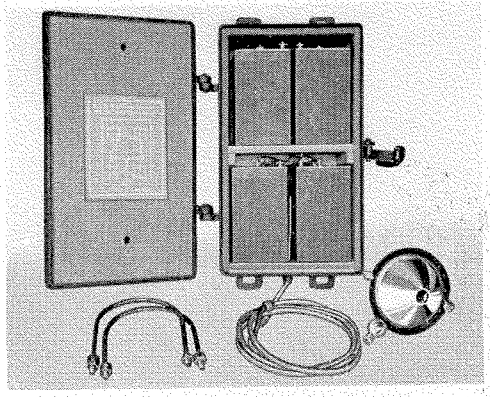


Type 1840 Outfit is furnished complete with U-bolts, nuts, and washers for mounting the battery box on 5″ I.D. pipe unless otherwise specified.

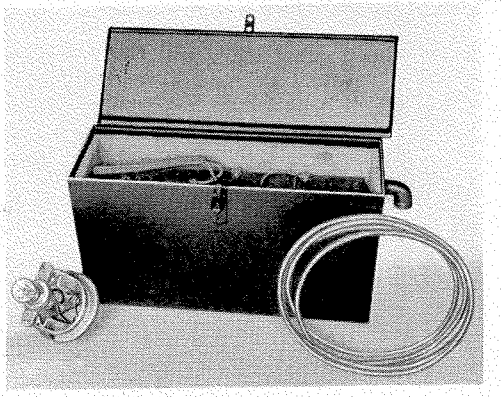
Type 1830 Outfit is furnished with lag screws for mounting the battery box on the tie.

Type 1844 Outfit is for installation in battery containers made from 12″ vitreous tile and includes a battery rack and cover with watertight bushing and Okocord for installation.

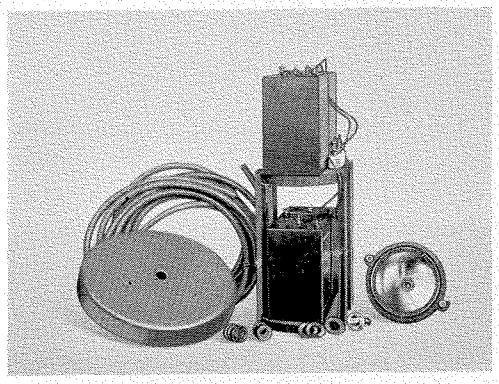
Switch and Semaphore Lighting Outfits



Typical Type 1840 Lighting Outfit



Typical Type 1830 Lighting Outfit



Typical Type 1844 Lighting Outfit

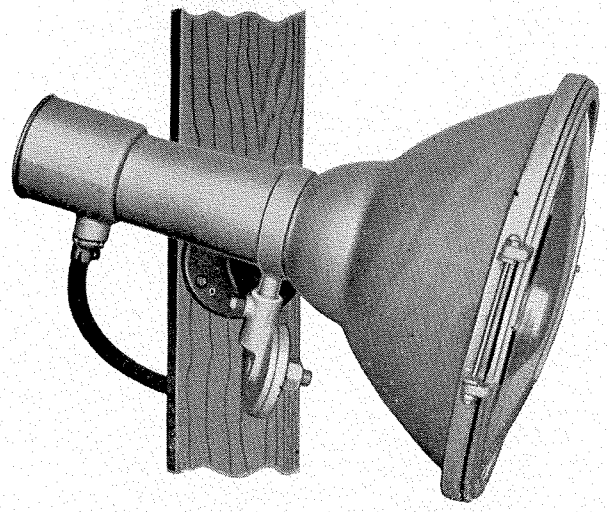
These outfits can be furnished with any adaptor or lamp shown in this catalog. See preceding page for general description. Specify information desired with particular adaptors.

ORDERING REFERENCE
Specify Plate Number L120, Reference Number, and Description

Ref. No.	Description	Dwg. Ref.
1	Type 1830 Lighting Outfit complete with special lamp bulb, four batteries, 15′ of armoured cable, battery box, and Type 1832 Adaptor	Dwg. 1830
2	Type 1830 Lighting Outfit complete with special lamp bulb, four batteries, 15′ of armoured cable, battery box, and Type 875-50 Adaptor	
3	Type 1830 Lighting Outfit complete with special lamp bulb, four batteries, 15′ of armoured cable, battery box, and Type 1801 Adaptor	
4	Type 1840 Lighting Outfit complete with special lamp bulb, four batteries, 15′ of armoured cable, battery box, and Type 1028 Adaptor	Dwg. 1840
5	Type 1840 Lighting Outfit complete with special lamp bulb, four batteries, 15′ of armoured cable, battery box, and Type 1801 Adaptor	
6	Type 1840 Lighting Outfit complete with special lamp bulb, four batteries, 15′ of armoured cable, battery box, and Type 875-50 Adaptor	
7	Type 1844 Lighting Outfit complete with special lamp bulb, four batteries, 30′ of Okocord cable, battery rack, and Type 1028 Adaptor	Dwg. 1844
8	Type 1844 Lighting Outfit complete with special lamp bulb, four batteries, 30′ of Okocord cable, battery rack, and Type 1832 Adaptor	
9	Type 1844 Lighting Outfit complete with special lamp bulb, four batteries, 30′ of Okocord cable, battery rack, and Type 1801 Adaptor	
10	Type 1844 Lighting Outfit complete with special lamp bulb, four batteries, 30′ of Okocord cable, battery rack, and Type 875-50 Adaptor	
11	Special 2.7 volt 150-m.a. lamp bulb	1832-4
12	No. 1517 Air-Depolarized Dry Cell (Four required)	1517

Any other combination of Lighting Outfit can be furnished to order.

Type 1895-200 Floodlight



Type 1895-200 Floodlight has proved very effective in preventing automobiles from running into the side of cars at dark and obscure crossings at night. They can be installed with time relays or sun relays so that they will burn steadily after dark; or they can be installed to burn only when a train is approaching or on the crossing. In the latter installation, it has been seen that the sudden illumination of the crossing provides an effective warning in addition to the other warning indications installed on the crossing.

Type 1895-200 Crossing Signal Floodlight is an electro-formed floodlight, i. e., the reflector is the housing for the floodlight. It is built up entirely by the electrolytic deposit of copper on a steel mould with the interior of the housing (or reflector) highly polished and rhodium-plated, with a high lustre finish.

The floodlight is equipped with a double filament lamp bulb and a light-out relay in series with the 200 watt filament, so that in the event that it burns out the 150 watt reserve filament will light up. The light-out relay is mounted in the neck of the floodlight, behind the lamp socket, where it is easily accessible without opening the front of the lamp.

Type 1895-200 is provided for mounting on wood poles unless especially ordered with clamps for mounting on steel pipe masts.

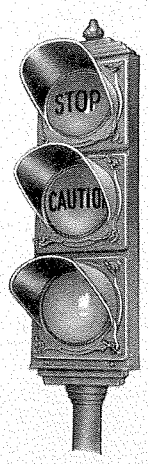
ORDERING REFERENCE

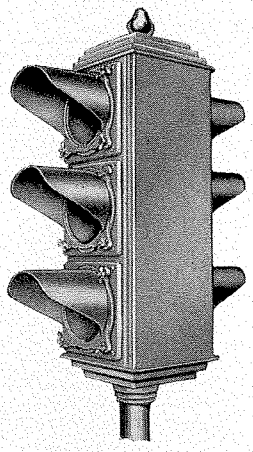
Specify Plate Number L130, Reference Number, and Description

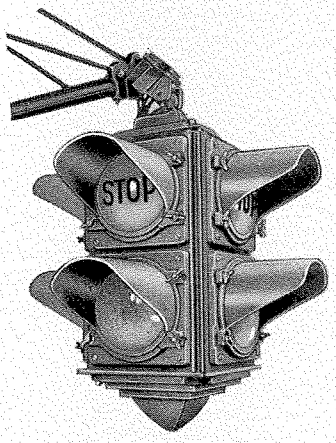
Ref. No.	Description	Piece No.
1	Type 1895-200 Floodlight	1895-200
	Replacement Parts	
2	Light-out relay	1895-206
3	PS-35 110 volt double filament lamp bulb (150-200 watts)	
4	Cover glass only	

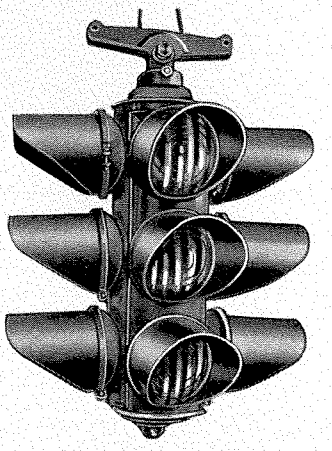
We can furnish other type Floodlights for other purposes such as illuminating railroad yards, station platforms, signs, etc.

Highway Traffic Signals









The Western Railroad Supply Company can furnish any type of Electric Traffic Signal and its control equipment. Different types of units for various methods of mounting are available. Control apparatus to provide for automatic, manual, or semi-automatic operation can be furnished to meet specifications. Complete details and literature on request.

PRINTING PRODUCTS CORPORATION—CHICAGO

5M-37

INSERT IN BINDER FOLLOWING SECTION L

Supplement 1 for Catalog Section L

WESTERN RAILROAD SUPPLY COMPANY

MANUFACTURERS

General Offices and Factory
2360 South Ashland Avenue
Chicago, Ill.

●

District Offices in

New York, N. Y.
Denver, Colo.
St. Louis, Mo.
Cleveland, Ohio
Houston, Texas

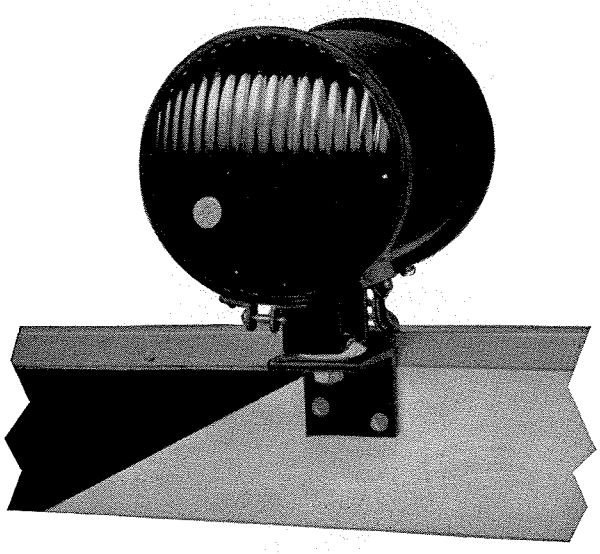
Printed in U.S.A.

1941

WESTERN RAILROAD SUPPLY COMPANY

Type 1573 Gate Lamp

TWO-WAY INDICATION—5⅜" DIAMETER LENSES



Type 1573 Gate Lamp is a two-way indication lamp with two 5⅜" diameter lenses placed opposite each other in exact focus with the lamp filament. Two types of lenses are available—30° spreadlite lenses or standard optical lenses. Design permits adjustment of alignment in both horizontal and vertical planes.

SPECIFICATIONS

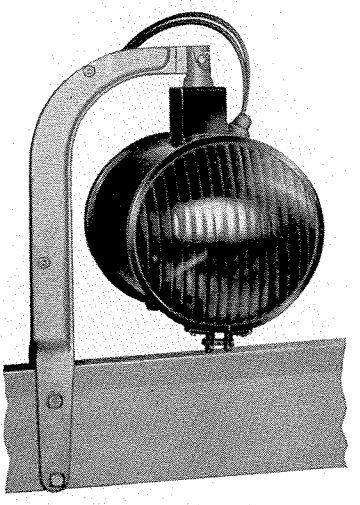
Weight: Two and one-quarter pounds.
Lenses: 5⅜" diameter, red 30° spreadlite lenses, or 5⅜" diameter, red optical lenses.
Lamp Socket: Single contact bayonet base. Lamp bulb not furnished unless specified.
Body: Aluminum.

ORDERING REFERENCE
Specify Plate Number L7, Reference Number and Description

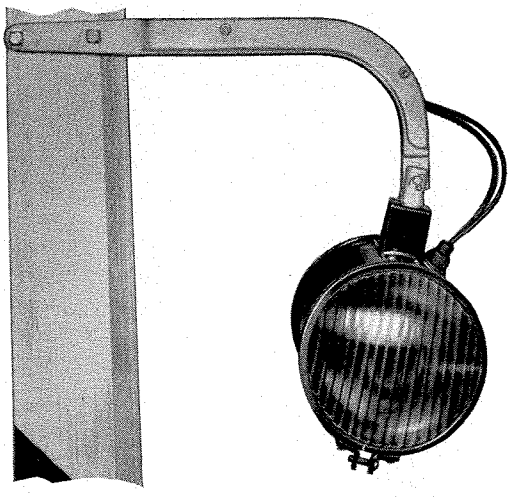
Ref. No.	Description	Piece No.
1	Type 1573 Gate Lamp complete, with red 30° spreadlite lenses	1573-50
2	Type 1573 Gate Lamp complete, with red optical lenses	1573-50A
3	Red 30° Spreadlite Lens only	5330
4	Red Optical Lens only	5331
5	Lens Ring only	0500-106S-B

Type 1573 Suspension Type Gate Lamp

TWO WAY INDICATION—5⅜" DIAMETER LENS



View of Lamp When Gate Is Down



View of Lamp When Gate Is Up

Type 1573 Suspension Type Gate Lamp is the same lamp body as the Type 1573 shown on the preceding page equipped with a bracket which allows the lamp to hang so that the vertical axis of the lenses is always perpendicular to the surface of the highway.

SPECIFICATIONS

Weight: Two and three-quarter pounds.
Lenses: 5⅜" diameter, red, 30° spreadlite lenses.
Lamp Socket: Single contact bayonet base. Lamp bulbs are not furnished unless specified.
Construction: Aluminum.

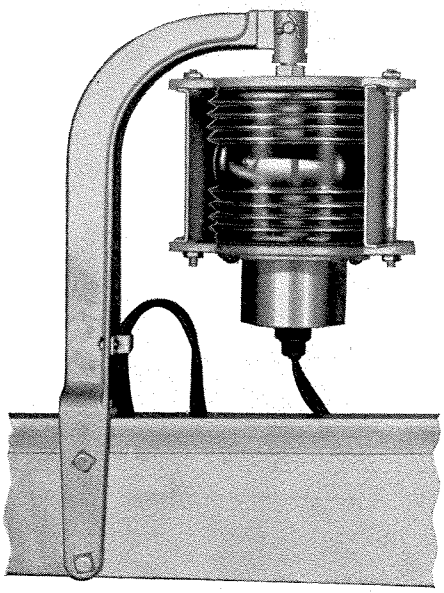
ORDERING REFERENCE
Specify Plate Number L8, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1573 Suspension Type Gate Lamp	1573-250
2	5⅜" Diameter, Red 30° Spreadlite Lens	5330
3	Lens Ring	0500-106S-B

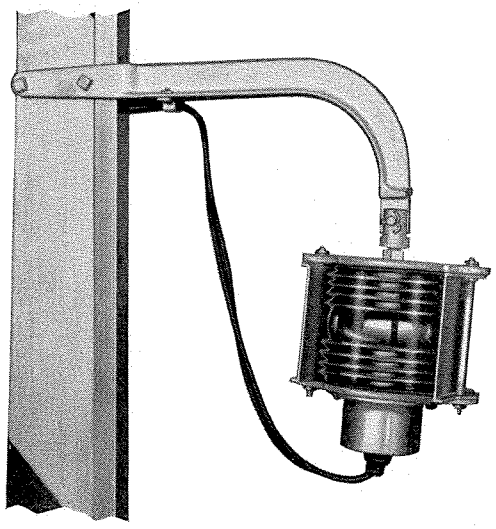
WESTERN RAILROAD SUPPLY COMPANY

Type 1575 Gate Lamp

TWO-WAY INDICATION—FRESNEL LENS



View of Lamp When Gate Is Down



View of Lamp When Gate Is Up

Type 1575 Gate Lamp is equipped with a 3⅝″ diameter, red, 360° Fresnel lens shielded so that the light can not be seen at a distance by the train crew. A suspension bracket is provided so that the axis of the lens is always vertical. For use with single contact bayonet base, S-11 bulb, lamp with 1¼″ LCL; or, medium screw base A-19 clear bulb, 25 watt, 115 volt, with rough service filament.

SPECIFICATIONS

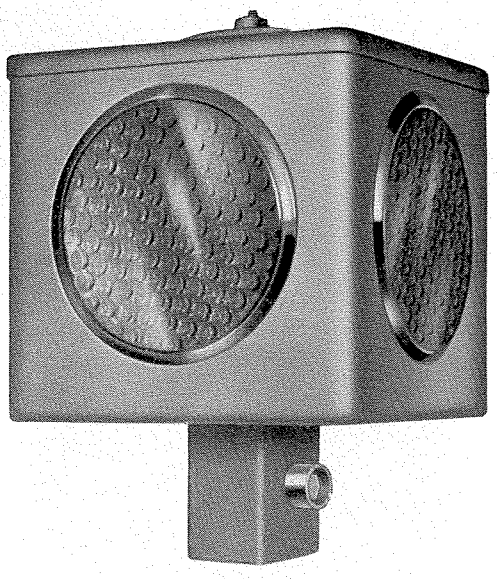
Lamp Socket: Single contact bayonet base or medium screw base as specified. Lamp bulb is not furnished unless specified.
Weight: Two and one-quarter pounds.
Lens: 3⅝″ diameter, red, 360° Fresnel lens.

ORDERING REFERENCE
Specify Plate Number L9, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1575 Gate Lamp with single contact bayonet base lamp socket	1575
2	Type 1575 Gate Lamp with medium screw base lamp socket	1575-250
3	Red Fresnel Lens	1575-11

WESTERN RAILROAD SUPPLY COMPANY

Type 3300B Reflector Lens Switch Lamp



Type 3300B Reflector Lens Switch Lamp is equipped with four Corning Doublet Reflecting Units with any of the three color combinations shown in the Ordering Reference table below. The Reflecting Units are 5⅜″ in diameter. The entire lamp is approximately 7″ square and 10¼″ high.

The nut which holds the cover on the housing and the bolt which fastens the lamp to the switch stand staff can be furnished in two types, i.e., with theft-resisting cups so that an A.A.R. socket wrench must be used to remove the lamp or the cover; or without the theft-resisting cups so that standard wrench may be used. Unless otherwise specified, theft-resisting cups will be furnished.

Each reflecting unit displays a full lens indication through an angle of 24° (12° either side of center) in any plane.

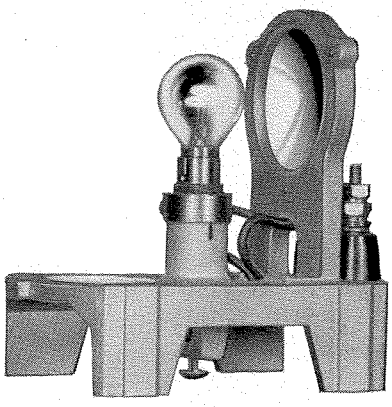
TYPE OF SWITCH STAND STAFF SHOULD BE SPECIFIED AND A DRAWING OF IT FURNISHED IF POSSIBLE

ORDERING REFERENCE
Specify Plate Number L104, Reference Number and Description

Ref. No.	Description	Drawing Reference
1	Type 3300B Reflector Lens Switch Lamp with Red and Green Lenses	3300B
2	Type 3300B Reflector Lens Switch Lamp with Yellow and Green Lenses	3300B
3	Type 3300B Reflector Lens Switch Lamp with Red and Yellow Lenses	3300B
4	Corning Doublet Reflecting Lens only (Specify color)	3300-60

WESTERN RAILROAD SUPPLY COMPANY

Type 1524 Semaphore Lamp Adaptor



Type 1524 Semaphore Lamp Adapter is designed for use in cast iron or sheet iron semaphore lamps. The lamp bulb is properly focused at the factory and the lamp socket is fixed so that if precision filament lamp bulb is used after the original bulb is burned out no additional focusing is required.

The reflector projects an inverted image of the filament at the focal point increasing the intensity of the light beam approximately 25%.

Lamp bulb furnished is single contact bayonet base, S-11 bulb, 1¼" L.C.L., C2R filament (A.A.R., Signal Section Drawing 1544) of voltage and wattage as specified.

SPECIFY FOCAL LENGTH OF OPTICAL LENS BEHIND WHICH UNIT IS TO BE USED.

ORDERING REFERENCE
Specify Plate Number L106, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1524 Semaphore Lamp Adapter (Specify focal length of optical lens behind which unit is to be used and specify voltage and wattage of lamp bulb)	1524

WESTERN RAILROAD SUPPLY COMPANY

Type 1525 Crossing Watchman's Hand Lantern

TWO-WAY INDICATION

Type 1525 Crossing Watchman's Hand Lantern is designed so that a crossing watchman can present a red lantern indication in two directions. The red cover glasses are 4½" in diameter, and a very strong light is furnished.

The lamp uses a standard 6 volt hand lantern battery and Mazda No. 502 bulbs.

ORDERING REFERENCE
Specify Plate Number L135, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 1525 Crossing Watchman's Hand Lantern, complete with lamp bulbs, less battery	1525
2	Mazda Lamp Bulb for Type 1525 Lamp	M502

GEIS PRINTING CO., CHICAGO, 5M-41

Section

M

Signaling Accessories *and* Control Appliances

WESTERN RAILROAD SUPPLY COMPANY

MANUFACTURERS

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Houston, Texas

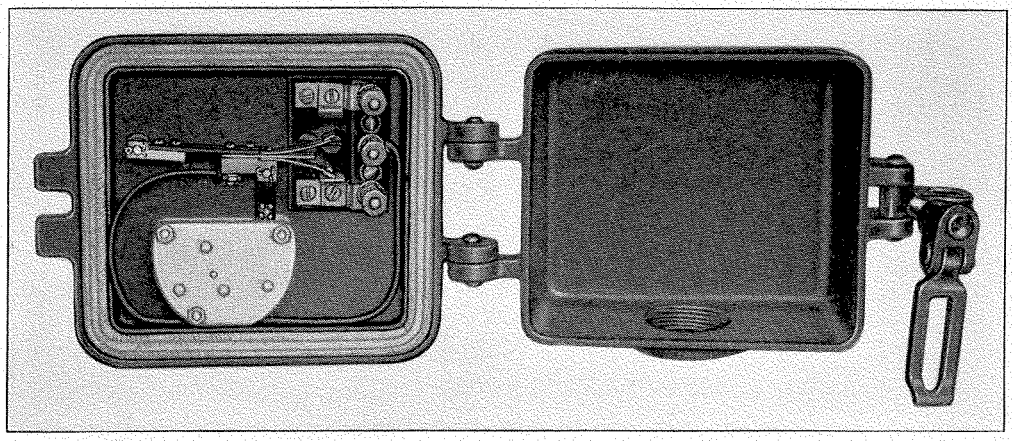
Printed in U. S. A.

1937

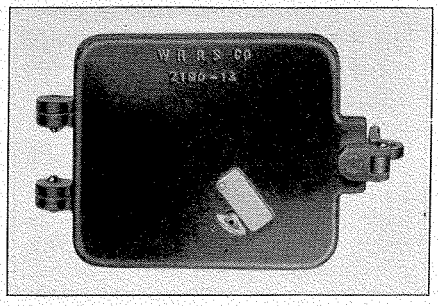
WESTERN RAILROAD SUPPLY COMPANY

Type 2190 Key Operated Test Boxes

FOR MOUNTING ON FLAT SURFACE OR FOR MOUNTING ON PIPE NIPPLE



Open View



Type 2190 Test Boxes are provided with a dependent front and back contact for any use desired such as the testing of crossing signals or for the control of signals at crossings during switching operations at or near a crossing signal installation. The contact is operated by the mechanism of a standard switch lock which is equipped to operate only with the standard switch key of the railroad to which it is being shipped. When operated to the reverse position the key can not be removed. The contact must be restored to normal to release the key. Size 6¾″ x 7⅝″. Mounting bolt spacing of flush mounting type, 7½″ center to center.

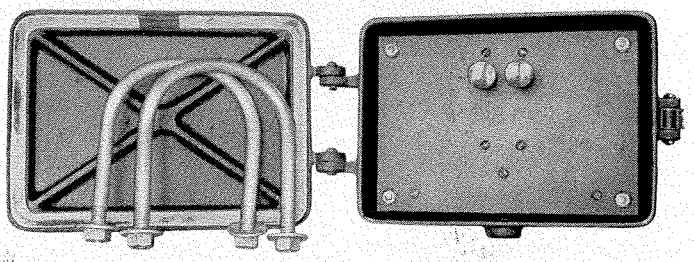
ORDERING REFERENCE
Specify Plate Number M5, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 2190 Test Box for mounting on 1½″ pipe nipple	2190–1
2	Type 2190 Test Box complete with two ½″ x 2½″ lg. hex hd. bolts with nuts and washers for flush mounting	2190–2
	Replacement Parts	
10	Mechanism and cover complete	2190–30
11	Subassembly of lock	2190–32
12	Subassembly of moving contact	2190–14
13	Stationary back contact	2190–35A
14	Stationary front contact	2190–35B
15	Locking hasp complete	1410–31
16	Cover only (drilled and tapped)	2190–13

WESTERN RAILROAD SUPPLY COMPANY

Type 1265 Crossing Signal Test Box

FOR SIDE OF POST MOUNTING



These test boxes provide separately housed test switches and, if specified, indicator lamps for the use of section men and other authorized persons to make periodic tests of crossing signals. The box can be locked with the railroad's standard switch padlock.

Furnished with adaptor clamps and U-bolts for mounting on the side of 4″ I.D. pipe post unless otherwise specified. For box for mounting on flat surfaces see following page. Size: 10⅝″ wide by 8″ high by 5 1/16″ deep overall.

Lamp bulb not furnished unless specified. Lamp socket is for single contact bayonet base, S11 bulb, lamp.

ORDERING REFERENCE

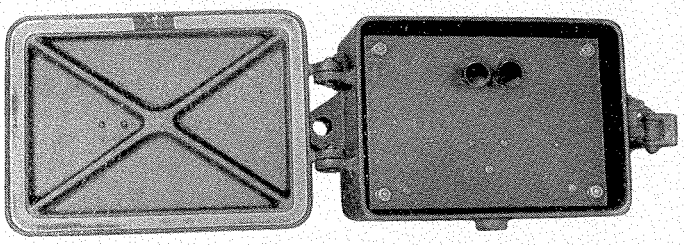
Specify Plate Number M10, Reference Number, and Description

Ref. No.	Description	Piece No.
	Test Boxes Without Indication Lamp	
1	Type 1265 Test Box with 2 normally open switches	1265–51
2	Type 1265 Test Box with 2 normally closed switches	1265–52
3	Type 1265 Test Box with 1 normally open and 1 normally closed switch	1265–53
4	Type 1265 Test Box with 3 normally open switches	1265–54
5	Type 1265 Test Box with 3 normally closed switches	1265–55
6	Type 1265 Test Box with 2 normally closed and 1 normally open switch	1265–56
7	Type 1265 Test Box with 1 normally closed and 2 normally open switches	1265–57
8	Type 1265 Test Box with 4 normally open switches	1265–58
9	Type 1265 Test Box with 4 normally closed switches	1265–59
10	Type 1265 Test Box with 4 switches as specified in order	1265–60
	Test Boxes With Indication Lamp	
11	Type 1265 Test Box with 2 normally open switches	1265–61
12	Type 1265 Test Box with 2 normally closed switches	1265–62
13	Type 1265 Test Box with 1 normally open and 1 normally closed switch	1265–63
14	Type 1265 Test Box with 3 normally open switches	1265–64
15	Type 1265 Test Box with 3 normally closed switches	1265–65
16	Type 1265 Test Box with 2 normally closed and 1 normally open switch	1265–66
17	Type 1265 Test Box with 1 normally closed and 2 normally open switches	1265–67
	Replacement Parts	
21	Normally open switch	1265–24
22	Normally closed switch	1265–25
23	Indication lamp socket	1265–32
24	Knob	1265–26

WESTERN RAILROAD SUPPLY COMPANY

Type 1266 Crossing Signal Test Box

FOR MOUNTING ON FLAT SURFACES



These test boxes are identical with the Type 1265 Boxes described on the preceding page except that they may be mounted on the side of instrument cases, buildings, bridge legs, etc., in easily accessible places where pipe posts are not available.

Furnished with 1¼″ close nipple, 2 conduit bushings and lock nuts. Mounting holes are provided, spaced 12″ c.c., for ⅝″ bolts or lag screws.

Lamp bulb not furnished unless specified. Lamp socket is for single contact bayonet base, S11 bulb, lamp.

ORDERING REFERENCE

Specify Plate Number M11, Reference Number, and Description

Ref. No.	Description	Piece No.
	Test Boxes Without Indication Lamp	
1	Test Box with 2 normally open switches	1266–51
2	Test Box with 2 normally closed switches	1266–52
3	Test Box with 1 normally open and 1 normally closed switch	1266–53
4	Test Box with 3 normally open switches	1266–54
5	Test Box with 3 normally closed switches	1266–55
6	Test Box with 2 normally closed and 1 normally open switch	1266–56
7	Test Box with 1 normally closed and 2 normally open switches	1266–57
8	Test Box with 4 normally open switches	1266–58
9	Test Box with 4 normally closed switches	1266–59
10	Test Box with 4 switches as specified in order	1266–60
	Test Boxes With Indication Lamp	
11	Test Box with 2 normally open switches	1266–61
12	Test Box with 2 normally closed switches	1266–62
13	Test Box with 1 normally open and 1 normally closed switch	1266–63
14	Test Box with 3 normally open switches	1266–64
15	Test Box with 3 normally closed switches	1266–65
16	Test Box with 2 normally closed and 1 normally open switch	1266–66
17	Test Box with 1 normally closed and 2 normally open switches	1266–67
	Replacement Parts	
21	Normally open switch	1265–24
22	Normally closed switch	1265–25
23	Indication lamp socket	1265–32
24	Knob	1265–26

WESTERN RAILROAD SUPPLY COMPANY

Emergency Release Switches

4 CIRCUIT—6 CIRCUIT—8 CIRCUIT

With Cover Removed

The emergency release switch may be used at automatic interlockings, for manual control of Highway Crossing Signals, also in many circuits in interlocking plants and for numerous other purposes which will suggest themselves.

The switch is made in three sizes; four circuit, six circuit and eight circuit. Contacts will be arranged for any combination of normal open and normal closed circuits specified. Contact adjustments are accomplished by moving the discs along the threaded shaft to the desired point and locking them in position. Adjustments can be easily made while the switch is in service.

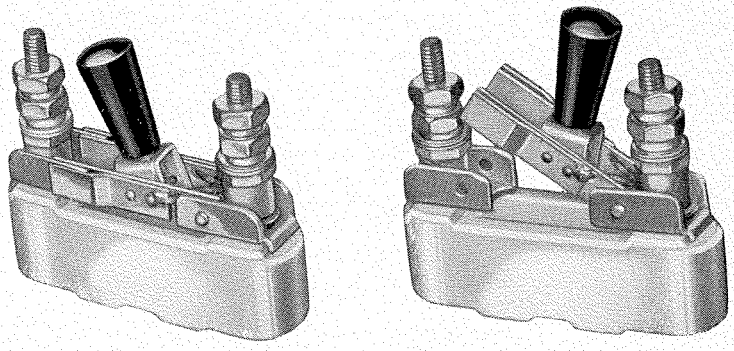
Provision is made for sealing the switch so that the circuits cannot be disturbed nor access be had to the contacts without first breaking the seal.

When specified, springs will be furnished to restore the switch to normal after an operation. These can be arranged to spring normal "out" or spring normal "in" as required.

ORDERING REFERENCE
Specify Plate Number M15, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Four Circuit Emergency Release Switch (Specify contact arrangement, and, if return spring is desired, specify whether to spring normal "in" or normal "out")	3055
2	Six Circuit Emergency Release Switch (Specify contact arrangement, and, if return spring is desired, specify whether to spring normal "in" or normal "out")	3070
3	Eight Circuit Emergency Release Switch (Specify contact arrangement, and, if return spring is desired, specify whether to spring normal "in" or normal "out")	3075
	Replacement Parts	
10	Return spring only, for Four Circuit and Six Circuit Switches	3062
10a	Return spring only, for Eight Circuit Switch	3074
11	Contact disc complete	3099
12	Contact spring only	3097

McKeen Test Switch



The McKeen Test Switch
Single Pole Single Throw

The McKeen Test Switch offers a safe means of taking meter readings at any location without danger of disrupting signal or other circuits.

The McKeen Switch consists essentially of a double bladed single pole, single throw switch mounted on an A.A.R. terminal block so constructed as to allow mounting in the circuit at any point where meter readings are frequently taken. The maintainer can attach the meter leads to the binding posts before opening the switch and allowing the current to flow through the meter. The switch may then be closed and the leads removed, all of which is accomplished, obviously, without opening any circuit.

Strong springs and heavy wiping action insure perfect contact at the front contact of the switch while a soldered, flexible pigtail provides a solid electrical path in multiple with the hinge at the heel of the switch.

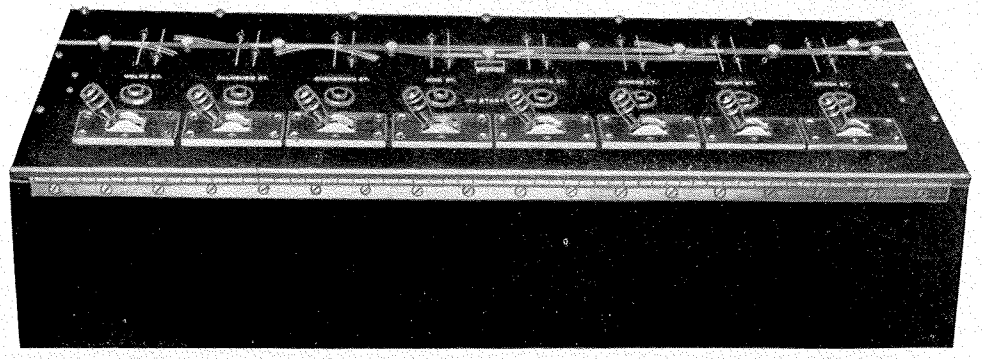
ORDERING REFERENCE

Specify Plate Number M20, Reference Number, and Description

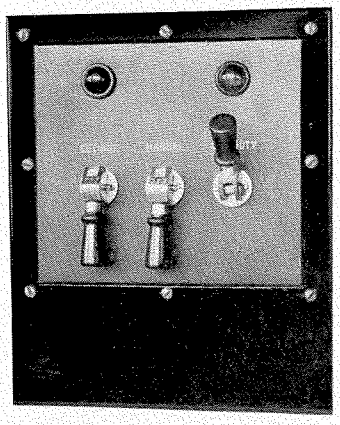
Ref. No.	Description	Piece No.
1	McKeen Test Switch	0250

Control Panels

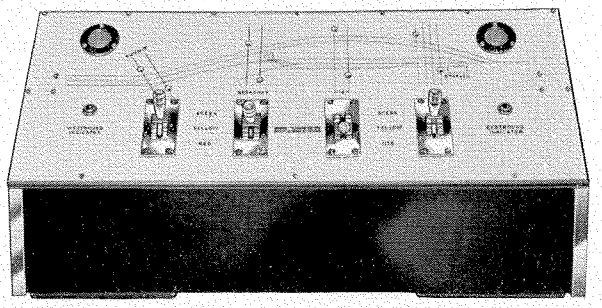
MANUFACTURED TO SPECIFICATIONS



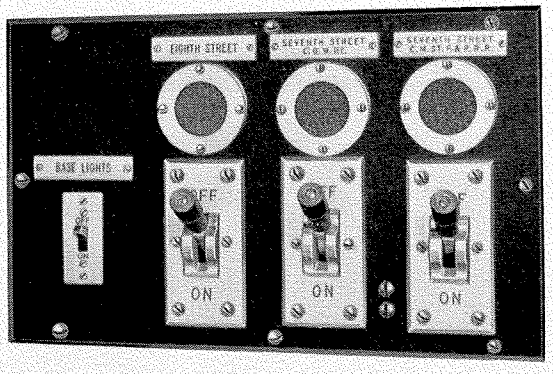
Typical control panel with indicator lights and colored track diagram for control of individual crossing signals at each of eight crossings.



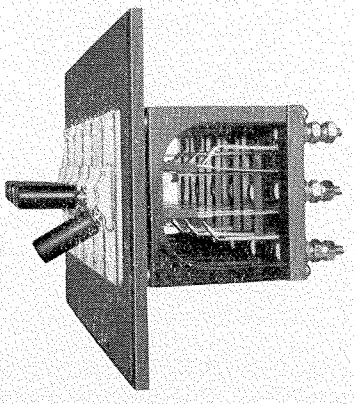
Control panel for part time manual supervision of crossing signals.



Manual control panel for four highway crossing signals including annunciators of the stick relay type.



Panel with indicator lights installed in tower to control crossing signals on three streets.



Contacts are heavily constructed; binding posts are sturdy and not crowded close together.

Control Panels

MANUFACTURED TO SPECIFICATIONS

Control panels for manual operation or supervision of highway crossing signals and other apparatus can be made in various combinations to meet all requirements and specifications.

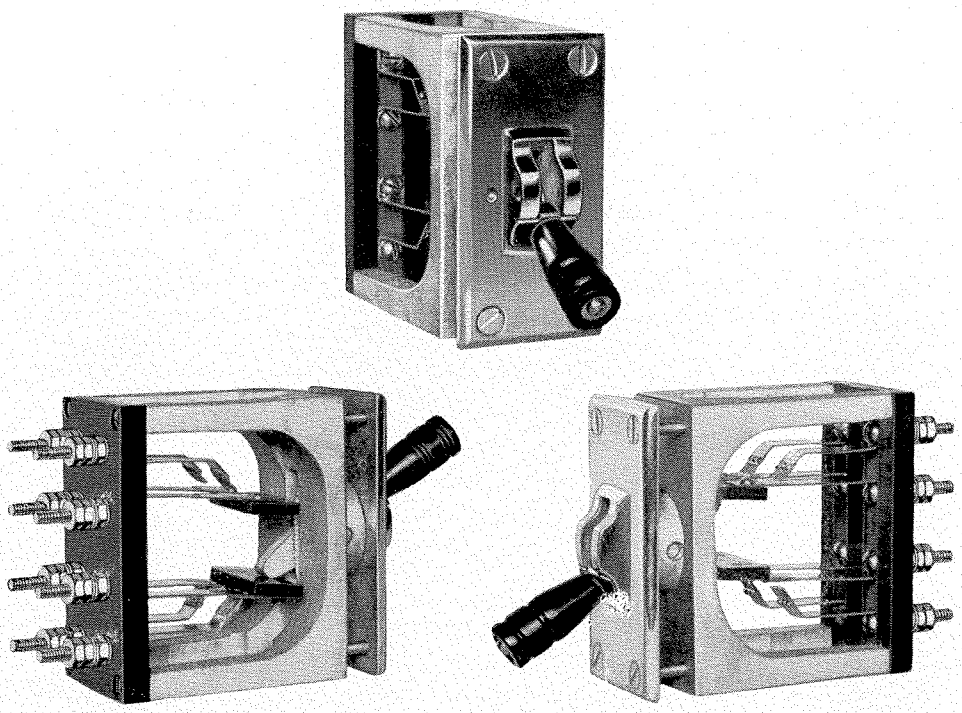
The panels generally are of ½" thick black bakelite of dimensions as required by the number of switches and indicating lights. The panels are mounted on sheet iron cabinets, either hinged or completely removable, as specified. They may be furnished with any descriptive etching including colored track diagrams.

The switches used are the Type 300 shown on Plate M30 of this Catalog Section, or any other switch that may be required. Switches can be furnished in two or three positions, ranging from single pole single throw to four pole double throw with various arangements such as "make before break," etc. Any number or combination of switches may be incorporated in a single panel control unit.

Similarly any combination of indicating lights can be furnished either to burn steadily or to flash in unison with the lights of the crossing signal. The light indicators are of three general styles: (1) the telephone switchboard jack and cap (see Plate M35), (2) Type 2110 Socket and Ground Glass Disc as used on the Type 2110 Annunciator (see Plate M35) for use with single or double contact bayonet base, S-11 bulb, lamps, and (3) Type X48 Socket for use with G-6 Bulb, double contact bayonet base lamps (see Plate M35). Special repeater relays with their coils in series with outside lamps and their front contacts controlling indicator lamps can be furnished when specified.

The opposite page shows a few typical control panels constructed to particular specifications. We will furnish complete drawings and estimates for the manufacture of any control panel if specifications and requirements are submitted.

Type 300 Control Switch



Type 300 Control Switch, illustrated above, answers the need for a dependable switch which can be available in several different styles to meet various requirements.

These switches are constructed on a heavy brass casting with a nickel plated front plate. The contacts can be furnished in either silver or copper-carbon as specified. The standard binding posts are No. 10-32 nickel plated brass screws but other types of posts may be furnished.

The sketch on the following page shows the three different types of control switch available: the Two Position, the Three Position, and the Self-Restoring Three Position.

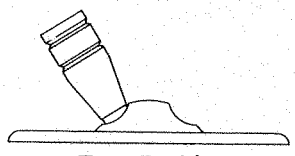
The various types are also available in single pole, double pole, three pole, and four pole.

We advise the use of the Type 300 Switch in control panels shown on Plate M25.

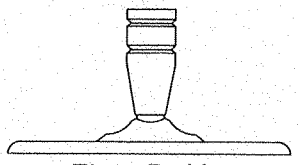
Ordering Reference on following page.

Type 300 Control Switch

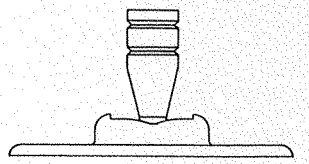
(Continued)



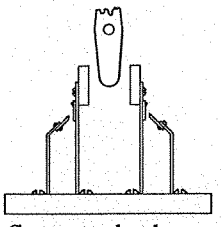
Two Position



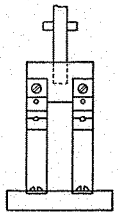
Three Position



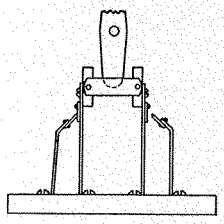
Self-Restoring Three Position



Contact banks arranged to operate independently.



End view.



Contact banks linked together.

Contact banks are regularly arranged to operate independently but can be linked together if specified.

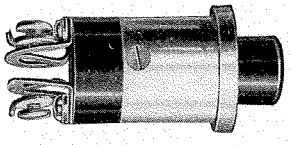
ORDERING REFERENCE

Specify Plate Number M30, Reference Number, and Description

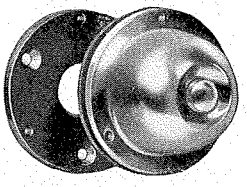
Ref. No.	Description	Piece No.
1	Type 300 Two Position, Single Pole, Switch with silver contacts	0300–101
2	Type 300 Two Position, Double Pole, Switch with silver contacts	0300–102
3	Type 300 Two Position, Three Pole, Switch with silver contacts	0300–103
4	Type 300 Two Position, Four Pole, Switch with silver contacts	0300–104
5	Type 300 Two Position, Single Pole, Switch with carbon contacts	0300–105
6	Type 300 Two Position, Double Pole, Switch with carbon contacts	0300–106
7	Type 300 Two Position, Three Pole, Switch with carbon contacts	0300–107
8	Type 300 Two Position, Four Pole, Switch with carbon contacts	0300–108
9	Type 300 Three Position, Single Pole, Switch with silver contacts	0300–109
10	Type 300 Three Position, Double Pole, Switch with silver contacts	0300–110
11	Type 300 Three Position, Three Pole, Switch with silver contacts	0300–111
12	Type 300 Three Position, Four Pole, Switch with silver contacts	0300–112
13	Type 300 Three Position, Single Pole, Switch with carbon contacts	0300–113
14	Type 300 Three Position, Double Pole, Switch with carbon contacts	0300–114
15	Type 300 Three Position, Three Pole, Switch with carbon contacts	0300–115
16	Type 300 Three Position, Four Pole, Switch with carbon contacts	0300–116
17	Type 300 Self Restoring Three Position, Single Pole, Switch with silver contacts	0300–117
18	Type 300 Self Restoring Three Position, Double Pole, Switch with silver contacts	0300–118
19	Type 300 Self Restoring Three Position, Three Pole, Switch with silver contacts	0300–119
20	Type 300 Self Restoring Three Position, Four Pole, Switch with silver contacts	0300–120
21	Type 300 Self Restoring Three Position, Single Pole, Switch with carbon contacts	0300–121
22	Type 300 Self Restoring Three Position, Double Pole, Switch with carbon contacts	0300–122
23	Type 300 Self Restoring Three Position, Three Pole, Switch with carbon contacts	0300–123
24	Type 300 Self Restoring Three Position, Four Pole, Switch with carbon contacts	0300–124

Replacement parts list will be furnished on request.

Control Panel Parts

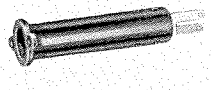


Type 85 Push Button, 110-220 Volts

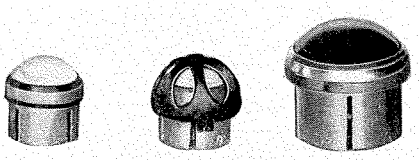


Type 1786 Push Button with Conduit Attachment

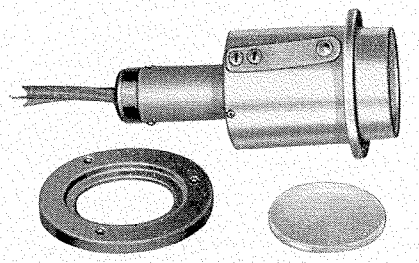
WATERTIGHT



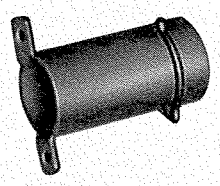
Type 18 Lamp Jack for Telephone Switchboard Lamps



Lamp Caps



Type 2110 Lamp Socket for single contact bayonet base, S11 bulb, lamps. Can be furnished complete with 1½" dia. red, green, yellow, or clear sand-blasted glass disc and retaining ring.



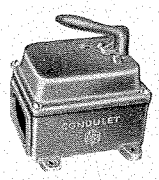
Type X-48 Lamp Socket for G-6 Double Contact Bayonet Base Lamp Bulbs. Socket is removable to the rear from the sleeve so that lamps can be changed without disturbing caps.

ORDERING REFERENCE

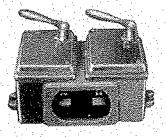
Specify Plate Number M35, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 85 Push Button, 110 volts, fits ¾" hole (normal open)	85
2	Type 85A Push Button, 220 volts, fits 1⅛" hole (normal open)	85A
3	Type 85C Push Button, 110 volts, fits 1⅛" hole (closed circuit)	85C
4	Type 1786 Push Button without conduit attachment	1786
5	Type 1786 Push Button with conduit attachment for ½" conduit	1786C
6	Type 18 Lamp Jack with No. 6–32 x ¼" mounting screws	18
7	White Lamp Cap to fit 9/16" hole	3
8	Red Lamp Cap to fit 9/16" hole	4
9	White Lamp Cap to fit ⅜" hole	7
10	Red Lamp Cap to fit ⅜" hole	8
11	Green Lamp Cap to fit ⅜" hole	12
12	Guarded Lamp Cap to fit ⅜" hole (Colors green, red, white as specified)	9
13	Type 2110 Lamp Socket	2110–10
14	Retaining ring for glass disc for Type 2110 Lamp Socket	2116
15	Sandblasted glass disc (Specify red, green, yellow or clear)	2118
16	Type X-48 Lamp Socket complete	X-48

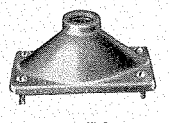
Control Switches



Single Gang



Double Gang



Hub Plate

The above switches can be used for manual control and supervision of highway crossing signals and similar apparatus. The switches are watertight and are especially adapted for use out of doors or wherever gas, dust, or moisture is present.

They are available in three types: (1) two-pole single throw, (2) two-pole double throw, and (3) three-way. Two-pole single throw switches can be furnished arranged to stay in "on" or "off" position or self-restoring normally "on" or self-restoring normally "off".

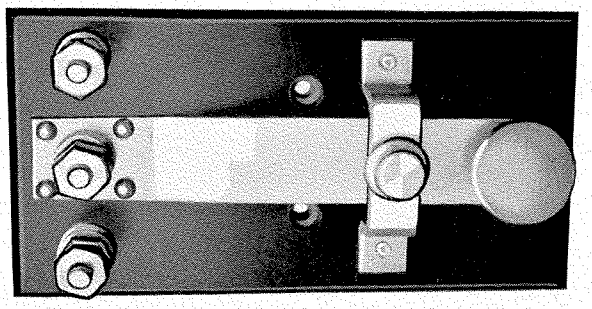
When ordering switches specify type of switch desired in each section. Switches other than those listed may be made to specifications.

ORDERING REFERENCE

Specify Plate Number M40, Reference Number, and Description

Ref. No.	Description
1	Single Gang Switch (as specified)
2	Double Gang Switch (as specified)
3	Three Gang Switch (as specified)
4	Four Gang Switch (as specified)
	Hub Plates
5	Hub Plate for single gang switch for ½″ conduit
6	Hub Plate for single gang switch for ¾″ conduit
7	Hub Plate for single gang switch for 1″ conduit
8	Hub Plate for multiple gang switch for ½″ conduit
9	Hub Plate for multiple gang switch for ¾″ conduit
10	Hub Plate for multiple gang switch for 1″ conduit
11	Hub Plate for multiple gang switch for 1¼″ conduit
12	Hub Plate for multiple gang switch for 1½″ conduit
13	Hub Plate for multiple gang switch for 2″ conduit
	Gaskets
14	Gasket only for single gang hub plate
15	Gasket only for multiple gang hub plate

Strap Keys



Type 41

Type 41 Strap Key is substantially made with a bakelite base and is provided with three standard A.A.R. binding posts and upper and lower platinum contacts. The contact spring is made of heavy phosphor bronze and gives strong pressure against the contact. It is so arranged that it can be used for normally open or normally closed circuits, or both. Base dimensions: 3⅜″ by 5¾″.

Strap Keys are also available with porcelain bases. Specify Type 0-11. Base dimensions: 2½″ by 5″.

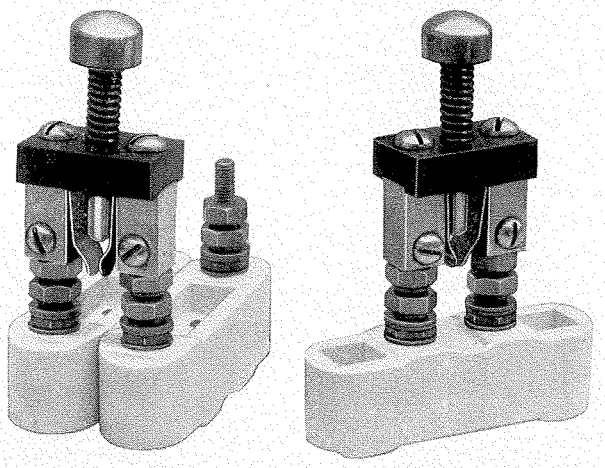
In some cases it is desirable to have two keys on one base. Such Double Strap Keys are available with bakelite bases. Base dimensions: 6″ by 5¾″.

ORDERING REFERENCE

Specify Plate Number M45, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 41 Strap Key with bakelite base	0041
2	Type 0-11 Strap Key with porcelain base	0–11
3	Type 41 Double Strap Key	0041–14

Type "O" Short Circuiting Push Button



The Type "O" Short Circuiting Push Button illustrated above was designed for testing crossing signal circuits and other similar work where a normally open contact is required. The button provides a long rubbing contact having sufficient pressure to shunt a track relay instantly.

These buttons are so designed that they may be mounted on one or two A.A.R. Terminals as shown in the illustration.

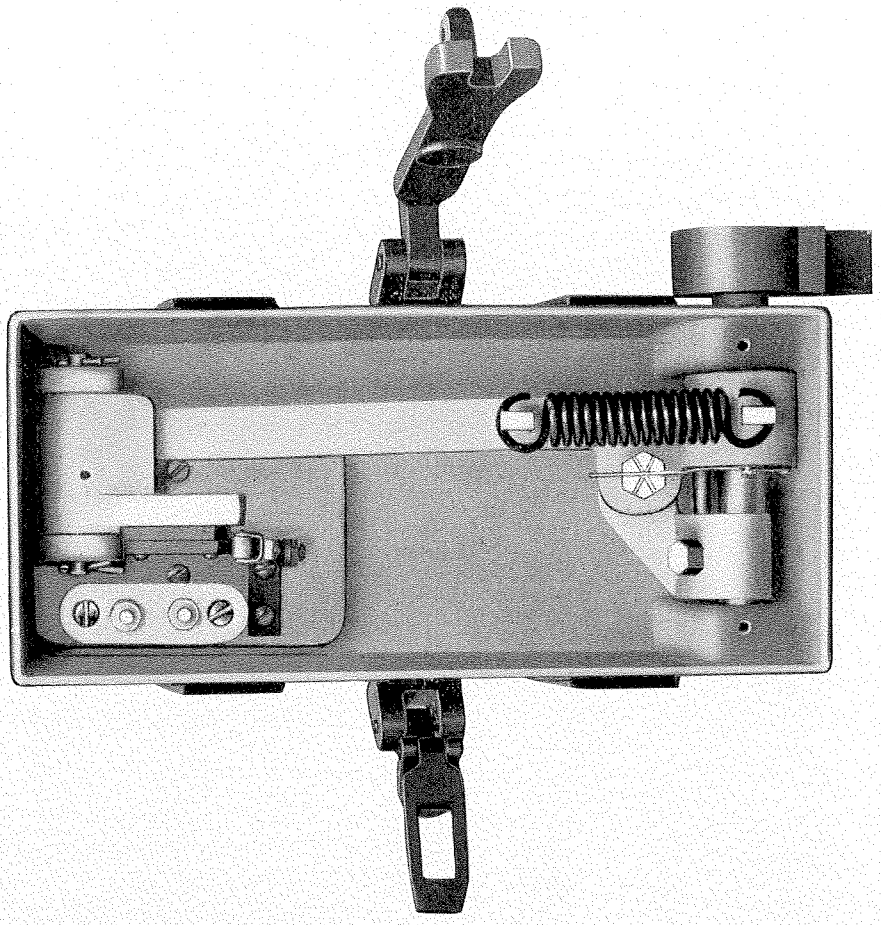
ORDERING REFERENCE

Specify Plate Number M50, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type "O" Short circuiting push button only.....	45
2	Type "O" Short circuiting push button complete with one terminal block...	46
3	Type "O" Short circuiting push button complete with two terminal blocks..	47

NOTE: Push buttons with normally closed contacts can be furnished if required.

Rail Contacts
Type "K"
QUICK ACTING



The type "K" Rail Contact is equipped with either one normal open or one normal closed contact. Cut shows normal open contact.

The circuit is closed or opened by each pair of wheels in a train.

This type of rail contact is adaptable to various requirements, especially for train annunciators and crossing signal cut out circuits.

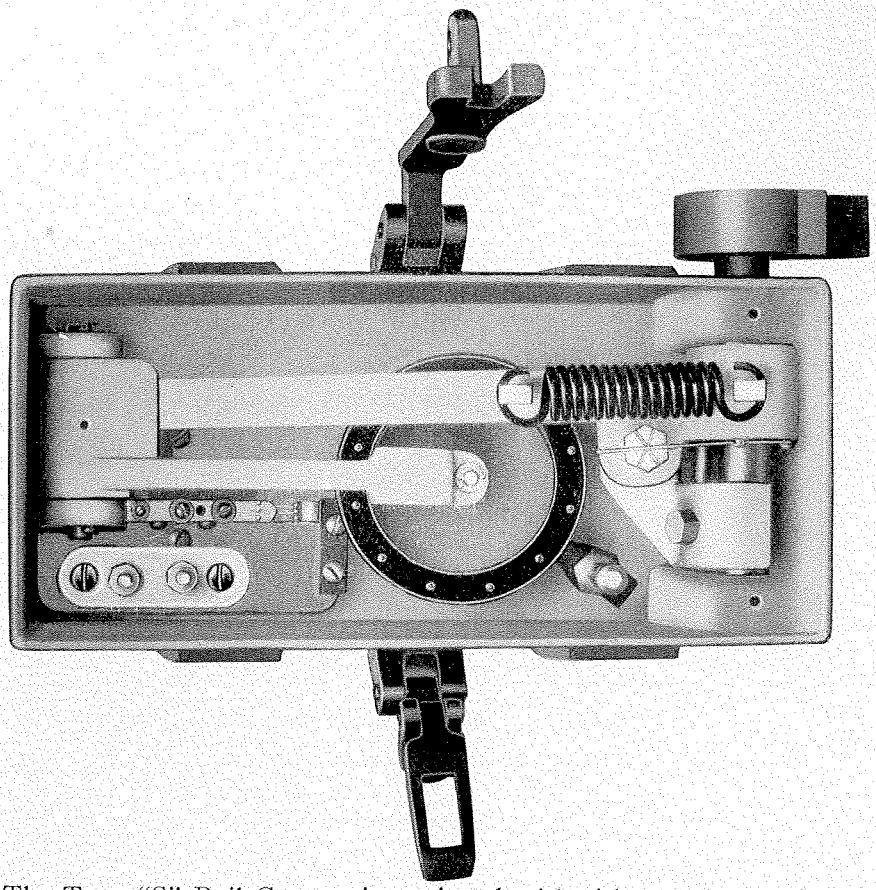
ORDERING REFERENCE
Specify Plate Number M75, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type "K" Rail Contact, quick acting, normal open	600
2	Type "K" Rail Contact, quick acting, normal closed	601

For replacement parts see Plate M77.

Rail Contacts
Type "S"

SLOW ACTING



The Type "S" Rail Contact is equipped with either one normal open or one normal closed contact and is so designed that the contact will be operated by the first pair of wheels in a train and will remain in this position until the entire train has passed and then restore itself to its normal position after a period of a few seconds. This length of time is determined by the adjustment of the diaphragm valve. The diaphragm prevents the operation of the contact between the trucks of a car. Cut shows normal closed contact.

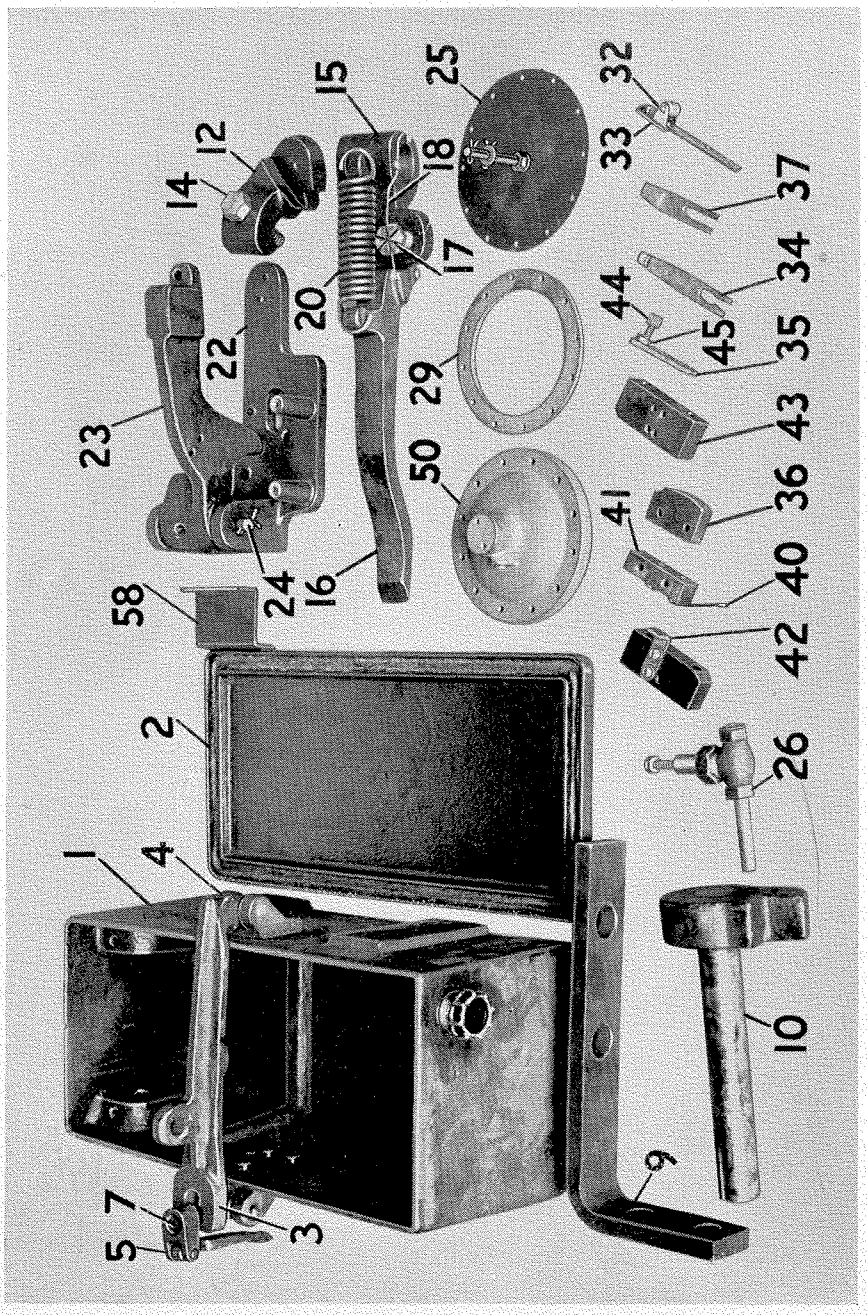
ORDERING REFERENCE
Specify Plate Number M76, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type "S" Rail Contact, slow acting, normal open	602
2	Type "S" Rail Contact, slow acting, normal closed	603

For replacement parts see Plate M77.

Rail Contacts

REPLACEMENT PARTS FOR TYPES "S" AND "K"



Ordering References on Following Page

Rail Contacts

REPLACEMENT PARTS FOR TYPES "S" AND "K"

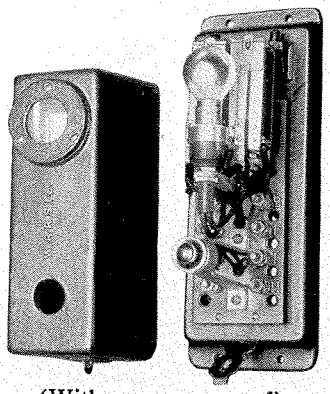
ORDERING REFERENCE

Specify Plate Number M77, Reference Number, and Description

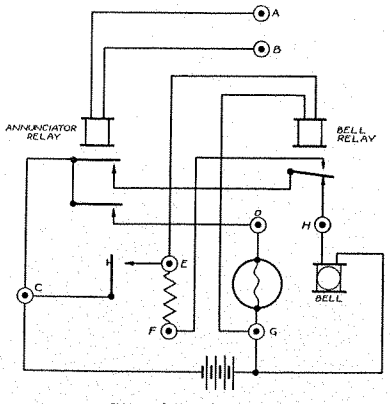
Ref. No.	Description	Piece No.
1	Case only	2541
2	Cover only	2542–1
3	Locking lever	2542–4
4	Locking lug	2542–2
5	Locking nut and hasp	1410–31
7	Locking bolt	2542–3
9	Supporting tie strap	2541–7
10	Operating foot and shaft	2544–8
12	Lifting chair	2544–3
14	Cap screw	
15	Operating lever heel	2544–1
16	Operating lever toe	2544–2
17	Depression adjustment screw	2543–7
18	Locking wire	2543–5
20	Compensating spring	2543–4
22	Movement base	2546–1
23	Movement knuckle	2546–2
24	Knuckle shaft	2546–3
25	Diaphragm assembly	2545–3
26	Diaphragm check valve	2545–4
29	Diaphragm ring	2545–2
32	Spring roller support	2545–7
33	Roller contact	2545–14
34	Vertical contact finger	2545–8
35	Finger adjustment strip	2545–6
36	Quick acting roller cam	2545–11
37	Contact finger reinforcement	2545–9
40	Normal closed contact finger	2548–1
41	Contact finger support	2548–2
42	Stationary contact	2548–3
43	Support for rollers and contacts	2545–10
44	Contact adjustment screw	2545–17
45	Lock nut	
50	Diaphragm case	2545–1
58	Shaft cover	2543–6

WESTERN RAILROAD SUPPLY COMPANY

Type 2110 Single Annunciator



(With cover removed)



Circuit Diagram

For use in interlocking towers, gateman's houses, stations, etc., this Annunciator is ideal, due to the flexibility in arrangement of its various parts and the many circuit combinations in which it can be used.

The entrance of a train into the annunciator circuit causes a bell to ring and the lamp to light up behind the glass covered aperture. By pressing the push button the bell control relay is picked up, causing the bell to stop ringing, but the lamp continues to burn as long as the annunciator circuit is occupied. The resistance which is cut in after the bell control relay is picked up is not furnished unless specified and will then be governed by the voltage of the local battery.

One bell can be used for several of these annunciators and therefore the bell is not made a part of the annunciator, but must be ordered separately.

Size: 3⅜" x 10¼" x 4¾" deep.

Both the line and bell control relays will be furnished 33 ohms standard, requiring current flow of 0.025 ampere, although they can be furnished as specified up to 1000 ohms.

Voltage and wattage of lamp and resistance of bell must be specified. Specify resistance to be cut in series with bell control relay if desired, otherwise a jumper will be necessary between posts "E" and "F".

ORDERING REFERENCE

Specify Plate Number M80, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 2110 Single Annunciator with push button and lamp	2110
2	Type 2110 Single Annunciator with lamp for use with detached push button	2110-A
3	Type 2110 Single Annunciator with push button for use with detached lamp	2110-B
4	Type 2110 Single Annunciator for use with detached push button and lamp	2110-C

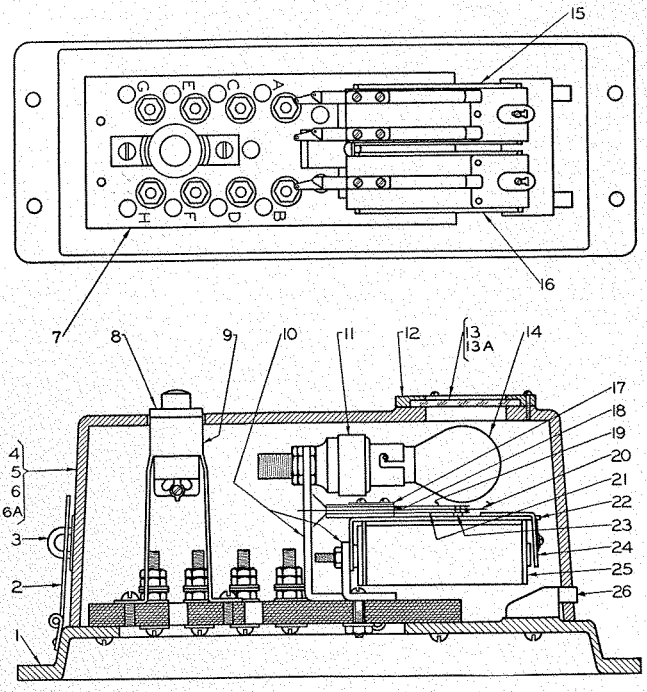
NOTE:

1—For Duplex Annunciator see Plate M85.
2—For bells for use with Annunciators see Catalog Section B.
3—For detached push button for use with Annunciators see Plate M35, Ref. No. 1.
4—For replacement parts for Type 2110 Single Annunciator see following page.

WESTERN RAILROAD SUPPLY COMPANY

Type 2110 Single Annunciator

REPLACEMENT PARTS

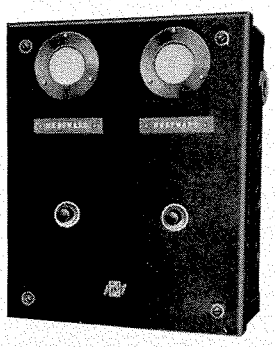


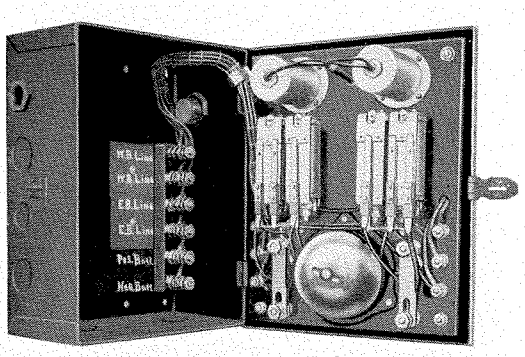
ORDERING REFERENCE

Specify Plate Number M81, Reference Number, and Description

Ref. No.	Description	Piece No.	Ref. No.	Description	Piece No.
1	Base complete	2111–1	**14**	Lamp as specified	
2	Hasp only	2110–11A	**15**	Line relay complete (specify resistance)	L-P501BB
3	Staple only	2110–12	**16**	Bell relay complete (specify resistance)	L-P501C
4	Cover complete	2115–3	**17**	Two-hole washer	L-P5315
5	Cover for No. 2110A	2115–4	**18**	Contact insulation strip	L-P7711
6	Cover for No. 2110B	2115–5	**19**	Front contact spring	L-P5323
6a	Cover for No. 2110C	2115–6	**20**	Moving contact spring	L-P5324
7	Insulating base with eight terminals	2112–1	**21**	Back contact spring	L-P5325
8	Normally open push button	85	**22**	Relay back strap	L-P5301
9	Push button bracket	2114	**23**	Contact spacer	L-P7647
10	Relay and lamp mounting bracket	2113	**24**	Relay armature	L-P6135
11	S.C.B.B. lamp socket	870	**25**	Relay coil (specify resistance)	L-P5478
12	Retaining ring	2116	**26**	Cover bracket	2117
13	Ground glass disc	2118			
13a	Brass disc, for 2110 B & C	2118–1			

Type 2110 Duplex Annunciator





Type 2110 Duplex Annunciator is similar to two type 2110 Single Annunciators mounted in a sheet steel cabinet, 8½″ wide by 10½″ high by 5¼″ deep. Separate and independent line relays, bell control stick relays, push buttons and lamps are provided, but only one bell, installed in the cabinet, is furnished.

The Annunciator operates on the same principles as the Type 2110 Single Annunciator shown on Plate M80, i.e. when either line relay is de-energized the bell rings and the corresponding lamp is lighted. Pushing the corresponding push button stops the bell by picking up the associated stick relay, but approach of another train on another circuit will cause the de-energization of the other line relay which will again ring the bell. It may again be stopped from ringing by pushing the corresponding push button.

This annunciator is operated on the closed circuit principle and since it combines two independent circuits in one compact unit it is ideal for gatemen, towermen, operators and others who must know of the approach of all trains and on which track or from what direction they are approaching.

Standard line relays are of 33 ohms resistance requiring approximately 25 milliamperes current flow but can be furnished wound to any specified resistance up to 1000 ohms. Interchangeable labels reading "Northward," "Southward," "Eastward," and "Westward" are furnished with each annunciator.

Knockouts are furnished for ¾″ and ½″ conduit on all four sides of the box.

Specify voltage and wattage of lamps and resistance of bell.

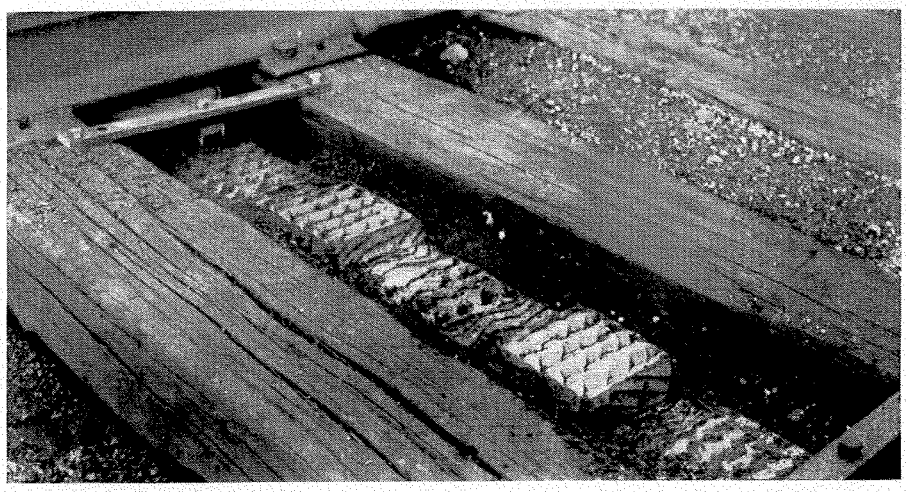
ORDERING REFERENCE

Specify Plate Number M85, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 2110 Duplex Annunciator	2110–30

For replacement parts for relay see Plate M81.
For replacement parts for indication lamp assembly see Plate M35.

Horni Magnetic Inductor



Magnetic Inductor Installed

The Horni Magnetic Inductor is used in conjunction with a Galvanometer Relay for the control of various operations.

The Magnetic Inductor itself is encased in concrete and buried in the track ballast below the level of the ties. A passage of a train actuates the Galvanometer Relay to open or close the coil circuit of a standard neutral relay. A junction box on one end of the inductor is provided for electrical connection with the Galvanometer Relay.

The Inductor operates on 110 volts 60 cycles, and together with the special Galvanometer Relay has an energy consumption of .003 watt.

Since the magnetic inductor itself is enclosed in concrete and buried in the ground there is absolutely no need for adjustment and maintenance.

The Galvanometer Relay, controlled by the inductor, can in turn be used to control any number of various types of relays.

There are many uses for the Horni Magnetic Inductor. A few are:

1—Lighting of station platforms, water tanks, etc.

2—Control of annunicators for crossing watchmen.

3—Control of highway crossing signals.

4—Floodlighting of highway crossings.

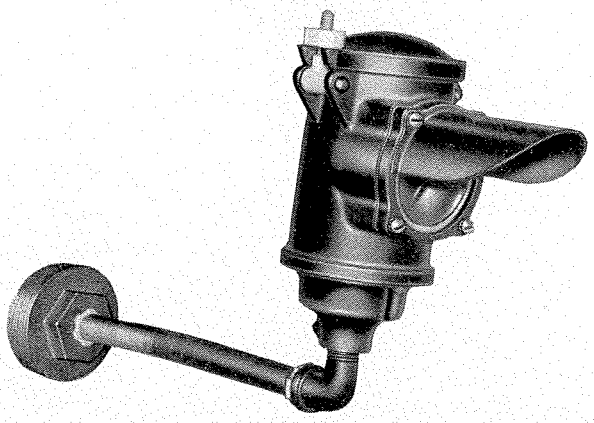
5—Opening of track relay circuits to insure shunting by light equipment.

6—To transmit information to despatcher as to speed of trains and number of cars passing a given point.

Write for full details for particular installations.

WESTERN RAILROAD SUPPLY COMPANY

Type 1873 Maintainers Call Lamp



Type 1873 Maintainers Call Lamp is designed for use in C.T.C. territory as an indicator light to call maintainers. Circuits may be so arranged that the dispatcher or C.T.C. operator may cause the indicator light to be illuminated and attract the attention of the maintainer when he passes on his motor car or train. The lamp will burn, giving a clear brilliant indication even in the brightest sunlight, until the maintainer has called the dispatcher or C.T.C. operator.

The Lamp is more desirable than a bell or horn since it can be operated until the maintainer has opportunity to make his call without disturbing other persons in the vicinity. Other uses will suggest themselves.

The Maintainers Call Lamp is furnished complete for mounting under the eaves of apparatus houses used in C.T.C. systems. Mounting equipment consists of a street elbow, a one-half inch conduit ten inches long and a 3″ to ½″ pipe bushing. Since most apparatus houses are constructed with a 3″ pipe opening this lamp may readily be applied under the eaves. Other mounting arrangements can be furnished if specified.

A clear convex roundel is furnished unless otherwise specified.

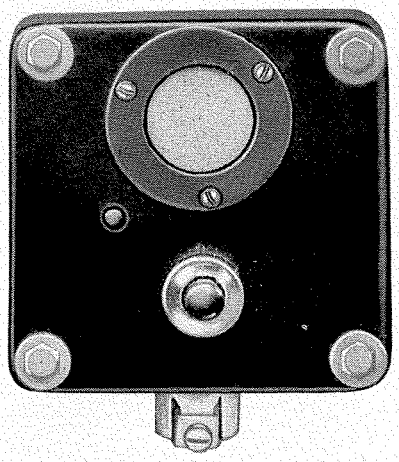
Lamp bulb is not furnished unless specified.

ORDERING REFERENCE

Specify Plate Number M90, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 1873 Maintainer's Call Lamp complete for mounting.....	1873–1

Type 2191 Push Button Indicator



Type 2191 Push Button Indicator is designed for use in switch indicator circuits to give information to trainmen. When installed at a suitable location near a switch installation the trainman can determine by pressing the push button if the approach circuits are occupied.

The indicator consists of a lamp socket and push button enclosed in a sturdy watertight cast iron housing so arranged that when the push button is depressed the indicator lamp will burn if the switch circuit is energized.

For mounting on ½" or ¾" conduit as specified.

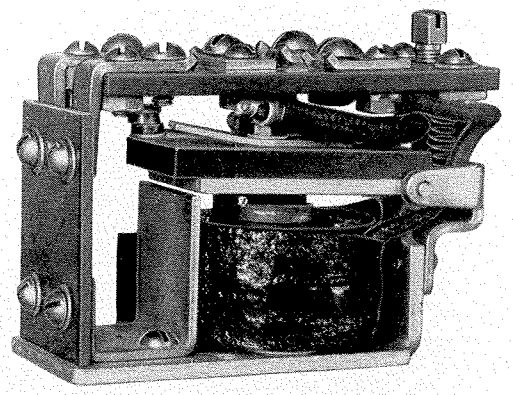
Lamp bulb not furnished unless specified. Socket is furnished for single contact bayonet base, S11 bulb, lamp.

ORDERING REFERENCE

Specify Plate Number M95, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 2191 Push Button Indicator for mounting on ½" conduit.....	2191–1
2	Type 2191 Push Button Indicator for mounting on ¾" conduit.....	2191–2

Lightout Relays



2½" x 1¼" x 2"

These Lightout Relays are for use with lamp filaments of 200 watts, 100 watts or 50 watts as specified. In case of a burned out lamp filament the reserve light will burn through the back contact of the relay after the de-energizing of the coil connected in series with the filament of the normal lamp.

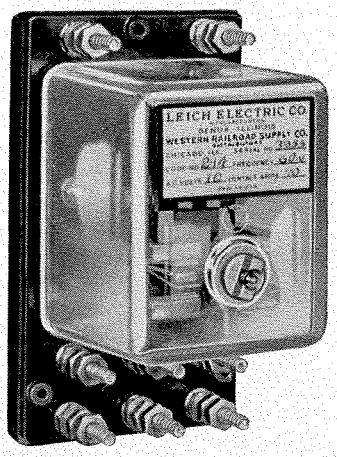
Special relays for use with lamps other than those shown below can be furnished on order.

ORDERING REFERENCE

Specify Plate Number M100, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Lightout Relay for use with lamp filament of 200 watts.	1895–206
2	Lightout Relay for use with lamp filament of 100 watts.	1895–106
3	Lightout Relay for use with lamp filament of 50 watts.	1895–56

A.C. Power-Off Relays



The Types 214, 216, and 226 A.C. Power-Off Relays are similar in appearance and have contact fingers of conventional design. The coils will be wound for operation of the relay on any specified A.C. voltage up to 220 volts of 25 or 60 cycles.

Type 214 Power-Off Relay is equipped with silver to silver front and back dependent contacts each capable of carrying 10 amperes at 20 volts or less. The energy consumption is not in excess of 0.75 watt.

Type 216 Power-Off Relay has two silver to silver front and back dependent contacts each capable of carrying 17 amperes at 15 volts or less, but is not furnished with contacts for higher voltages. Energy consumption is approximately 1 watt.

Type 226 Power-Off Relay has three dependent contacts each capable of carrying 10 amperes at 20 volts or less. It is especially designed for use in approach lighting two signals with A.C. normal D.C. reserve power supply.

When ordering, specify the voltage and frequency on which the relay is to operate. Unless otherwise specified it will be assumed that the contacts are to make and break approximately the same voltage as that specified for operating the relay. Contacts for the handling of that voltage, as described above, will be furnished.

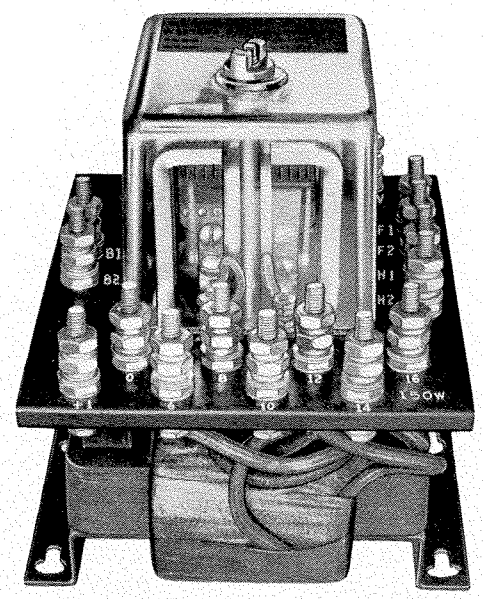
ORDERING REFERENCE

Specify Plate Number M105, Reference Number, and Description

Ref. No.	Description
1	Type 214 A. C. Power-Off Relay (Specify voltage and frequency).
2	Type 216 A. C. Power-Off Relay (Specify voltage and frequency).
3	Type 226 A. C. Power-Off Relay (Specify voltage and frequency).

WESTERN RAILROAD SUPPLY COMPANY

Type LUR Lighting Units



The Type LUR Universal Lighting Unit combines a lighting transformer with a power-off relay for connecting a reserve battery to the light circuit in case of A.C. power failure. This unit supersedes the No. 350 Universal lighting outfit and is more universal than the previous design, because it provides secondary voltage adjustment in 1 volt steps from 6 to 17 volts.

The Type LURX Universal Lighting Unit is similar in appearance and design to the Type LUR but is tapped to provide secondary voltage adjustment from 7 to 12½ volts in ½ volt steps.

These units are furnished with capacities of 80 V.A., or 150 V.A., as specified, with relays whose contacts have a carrying capacity of 10 amperes or 17 amperes each as required. Primary windings for connection to 110-115 or 200-230 volt supply lines of 25, 40 or 60 cycles frequency will be supplied.

Special lighting units are furnished to specification.

ORDERING REFERENCE

Specify Plate Number M110, Reference Number, and Description

Ref. No.	Description
1	Type LUR Universal Lighting Unit (Specify primary voltage and frequency and secondary capacity).
2	Type LURX Universal Lighting Unit (Specify primary voltage and frequency and secondary capacity).

WESTERN RAILROAD SUPPLY COMPANY

Mansbridge Type Condensers

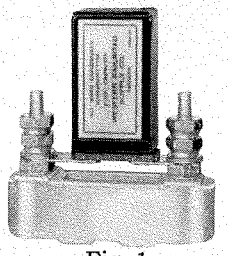


Fig. 1

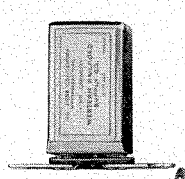


Fig. 2

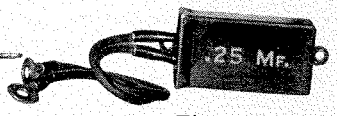


Fig. 3

These condensers are the Mansbridge Type and are guaranteed to retain their rated capacity if not damaged by excessive voltage. Special construction provides that in the event of puncture due to excessive voltage the condenser will burn itself clear. Listings below are for 500 volts D.C., flash test. Other voltages can be furnished to meet specifications. Certain size condensers can be furnished complete with A.A.R. porcelain terminal blocks, or, if specified, complete for mounting on terminals spaced 2⅜" c.c.

ORDERING REFERENCE

Specify Plate Number M115, Reference Number, and Description

Ref. No.	Description	Dwg. Ref.
	Condensers With Solder Lugs Only	Mfrs. No.
1	0.05 MF. Condenser, ½" x 1¼" x 2¼"	10-A
2	0.1 MF. Condenser, ½" x 1¼" x 2¼"	7-A
3	0.15 MF. Condenser, ½" x 1¼" x 2¼"†	13-A
4	0.25 MF. Condenser, ½" x 1¼" x 2¼"	8-A
5	0.3 MF. Condenser, ½" x 1¾" x 3½"	11-A
6	0.5 MF. Condenser, ½" x 1¾" x 4"†	3-A
7	0.55 MF. Condenser, ¾" x 1¾" x 3½"	19-A
8	1.0 MF. Condenser, ½" x 2¾" x 4"	1-A
9	1.0 MF. Condenser, 13/16" x 2 5/16" x 4½"	5-A
10	1.0 MF. Condenser, 1¾" x 1¾" x 4½"	23-A
11	1.0 MF. Condenser, 1" x 1¼" x 2¼"	24-A
12	1.3 MF. Condenser, ½" x 2¾" x 4"	16-A
13	1.5 MF. Condenser, ¾" x 3" x 4"	340
14	1.5 MF. Condenser, ⅞" x 2⅜" x 3"	343
15	2.0 MF. Condenser, ½" x 2¾" x 4"	9-A
16	2.0 MF. Condenser, 13/16" x 2 5/16" x 4½"	4-A
17	3.0 MF. Condenser, 1" x 2¾" x 4"	15-A
18	3.5 MF. Condenser, 1⅛" x 2¾" x 4"	17-A
19	4.0 MF. Condenser, ⅞" x 3¼" x 4½"	381
20	0.25 MF. Condenser, ½" x 1¼" x 2¼" with mounting ears and leads* (Fig. 3)	Piece No. 1101-86A
21	1.0 MF. Condenser, 1" x 1¼" x 2¼" with mounting ears and leads*	1101–86
	Condensers Complete With Terminal Block (Fig. 1)	Dwg. Ref.
22	0.05 MF. Condenser, ½" x 1¼" x 2¼", complete with terminal block	
23	0.1 MF. Condenser, ½" x 1¼" x 2¼", complete with terminal block	0086–10
24	0.25 MF. Condenser, ½" x 1¼" x 2¼", complete with terminal block	
25	0.5 MF. Condenser, ¾" x 1¼" x 2¼", complete with terminal block	
26	1.0 MF. Condenser, 1" x 1¼" x 2¼", complete with terminal block	
	Condensers for Mounting on Terminal Block (Fig. 2)	Dwg. Ref.
27	0.05 MF. Condenser, ½" x 1¼" x 2¼", for mounting on terminal block	
28	0.1 MF. Condenser, ½" x 1¼" x 2¼", for mounting on terminal block	0086
29	0.25 MF. Condenser, ½" x 1¼" x 2¼", for mounting on terminal block	
30	0.5 MF. Condenser, ¾" x 1¼" x 2¼", for mounting on terminal block	

†*Replacement part for Keystation Unifone.*
**Replacement part for Type 1101 Maxatone Bell.*

WESTERN RAILROAD SUPPLY COMPANY

Type 4501 Unifone

The Type 4501 Unifone is a portable telephone arranged to establish temporary communication over signal, telephone, telegraph or any other circuits without interfering with the operation of such circuits.

The compactness of the Unifone is evidenced by the fact that it combines in one unit a transmitter, receiver, induction coil, condenser, switch, and batteries, all complete in a small portable case, 9″ long, 3″ wide, and 3½″ deep and weighing only 2¾ pounds. It is readily carried in the pocket or tool kit. It is equipped with six feet of cord terminated in insulated spring clips which are easily attached to binding posts or wires.

The Unifone can be operated as either a common battery telephone or a local battery telephone. It can be directly connected in at any point on the Dispatcher's circuit to establish regular communication with the Dispatcher. Similarly, it can be connected in on any telephone circuit; or, it may be used by itself to establish its own telephone system. As a local battery unit it may be used between any two signal locations to facilitate installations and repairs.

The Unifone can be readily arranged to talk through open circuits on D.C. signaling systems by bridging open portions of the circuit with a one microfarad condenser (see Plate M115). The unit will enable conversation to be held through cut sections or circuits by establishing the telephone circuit across the open relay contacts by the condenser. The condensers within the telephone itself protects against false signal operation when the circuit is used as a telephone communicating circuit.

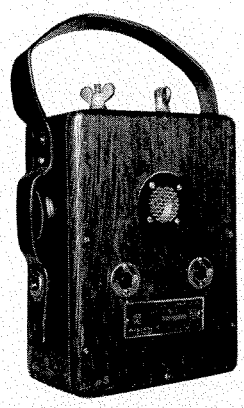
The Type 4501 Unifone may be used for talking through rails for short distances or between a signaling circuit and one rail or ground.

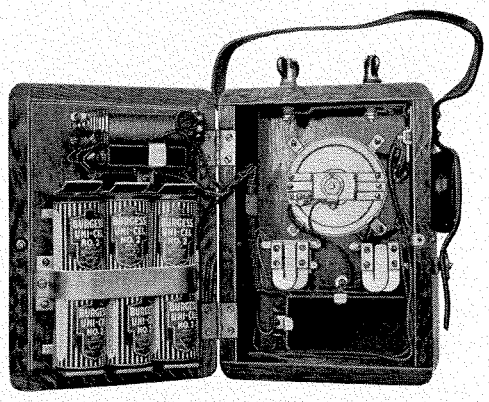
ORDERING REFERENCE

Specify Plate Number M120, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 4501 Unifone complete with carrying case.....	4501

Type 4502 Keystation Unifone





One or more Keystation Unifones and any number of Type 4501 Unifones may be used together to form a temporary telephone system over only two lines. The operator of the Keystation Unifone may call any one of the phones on the line by coded tone signals which vibrate the diaphragm of the receiver so violently that it gives a buzzing effect. Since the operators of all the telephones may talk over only two lines, it provides an ideal system for use in installations and tests. Other uses will suggest themselves.

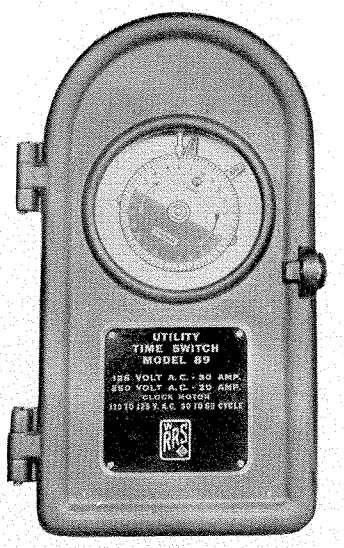
The tone currents for calling and the voice currents on the lines will not affect the normal operation of signal or other apparatus connected to the lines used for the temporary telephone circuit.

ORDERING REFERENCE
Specify Plate Number M125, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 4502 Keystation Unifone	4502

WESTERN RAILROAD SUPPLY COMPANY

Utility Time Switch



Model 89
Utility Time Switch

SPECIFICATIONS

30 Ampere capacity at 120 volts.
20 Ampere capacity at 220 volts.
Single pole, mercury tube switch.
Self-starting, A.C., induction motor, non-synchronous.
Subsidiary spring power—drives clock 3 hours without A.C. power.
Jeweled escapement.
Temperature compensated hair spring.
Aluminum housing, mission bronze finish.
Overall dimensions: 9″ high, 5″ wide, 3″ deep.

Approved by the National Board of Underwriters

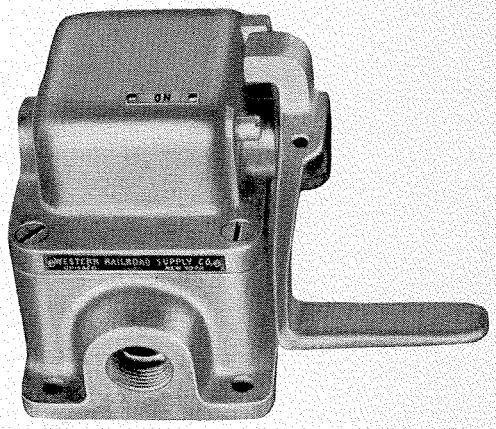
Through combining the advantages of both motor and spring power, the Model 89 Utility Time Switch is not a self-winding, but a strictly motor-powered movement which can not be affected by current failures or slight variations in current frequencies. Time periods during which the circuit is to be opened and closed are easily controlled by moving the levers around the dial to the time desired, and permitting the pins to engage the notches opposite the time markings. Special cams for additional operations up to one-half hour intervals may be had on order.

ORDERING REFERENCE
Specify Plate Number M130, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Model 89 Utility Time Switch.	89

Floor Switches

Type 2192



Type 2193

Each floor switch consists of two normally open contacts in a "bug-proof" cast iron housing. Contacts are silver to silver and are so constructed as to insure long wiping action.

Since these switches are foot-operated they are so designed to allow no undue strain on the contacts. The contacts can not get out of line.

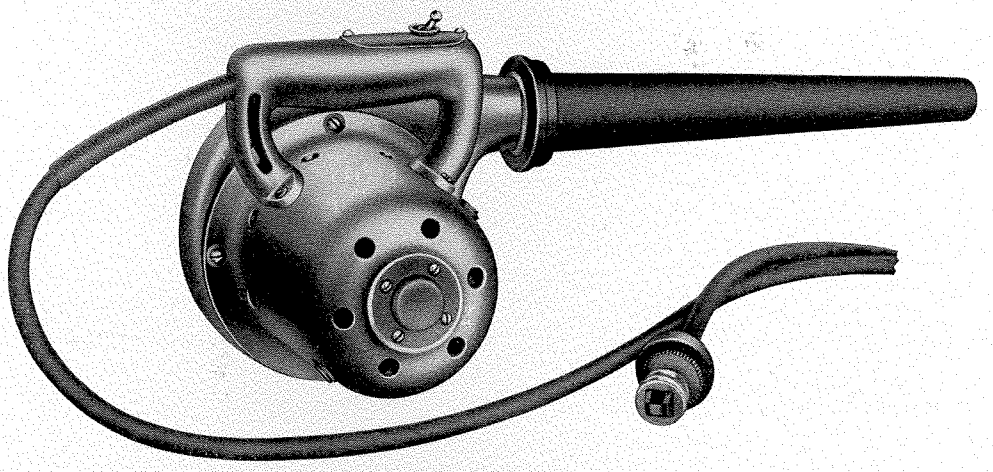
Type 2192 is the push-button type; Type 2193 is the lever type.

ORDERING REFERENCE

Specify Plate Number M135, Reference Number, and Description

Ref. No.	Description	Piece No.
1	Type 2192 Floor Switch	2192
2	Type 2193 Floor Switch	2193

"Marvel" Portable Blowers



"Marvel" Model No. 2 Ball Bearing Portable Blowers are used in every line of industry for keeping apparatus free from dust and dirt, thereby greatly reducing repairs and shut-downs as well as safe-guarding against fire hazard. They are especially effective in cleaning relay racks, locking beds, interlocking machines, terminal banks and other similar signal apparatus.

Model No. 2 has a universal ¼ H.P. ball bearing air-cooled motor giving 20-inch water column pressure, 20 feet of high grade rubber cable and plug, a rubber nozzle, and a toggle switch in the handle. The Blower is constructed of aluminum and is furnished with ball bearings that are packed with lubricant when the motor is assembled and require no further oiling.

This blower furnishes a strong blast of dry air that will not injure motor windings whereas compressed air contains a large amount of moisture.

The Model No. 2 Blower can also be furnished with vacuum cleaner and spraying attachments if desired.

Weight 7 pounds. Shipping weight boxed, 17 pounds.

Can be furnished with 110-volt, 220-volt, or 250-volt universal motors as specified. When ordering specify voltage.

ORDERING REFERENCE

Specify Plate Number M150, Reference Number and Description

Ref. No.	Description
1	"Marvel" Model No. 2 Portable Blower (Specify voltage).

PRINTING PRODUCTS CORPORATION—CHICAGO

5M-37

Section

R

Electrical Testing and Measuring Instruments

WESTERN RAILROAD SUPPLY COMPANY

General Offices and Factory
2360 South Ashland Avenue
Chicago, Illinois

New York, N. Y.
30 Church St.

Houston, Tex.
Union Nat. Bank Bldg.

Printed in U. S. A.

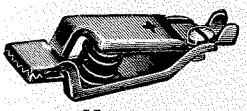
December, 1932

WESTERN RAILROAD SUPPLY COMPANY

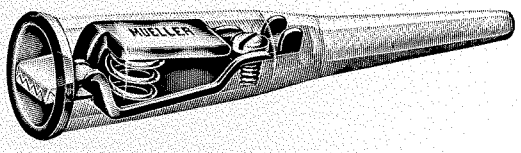
CHICAGO NEW YORK

Universal Test Clips

CADMIUM PLATED



No. 27



No. 27 with No. 29 Insulator

Spread of Jaw, $\frac{9}{16}$"—Screw Connection Especially Designed for Signalmen

Universal Test Clips are time savers in any electrical work requiring quick temporary connections. Especially well adapted for use by Signal Inspectors, Supervisors and Maintainers in making tests and temporary connections on Relays, Crossing Bells, Autoflags, Batteries, Track Circuits and all kinds of signal and similar apparatus.

They can be snapped on to dirty binding posts, corroded battery posts or ground wires and be depended upon to make good electrical connections. This is made possible by the design of the clip which is provided with sharp teeth which bite through any dirt or corrosion.

These clips are provided with screw connections for test leads, a feature making them far superior to the types which require the soldering of the leads to the test clip.

Insulators can also be furnished with these clips when desired. These insulators permit tests to be made under wet weather conditions and in close quarters where the bare clip might touch some object which would affect the accuracy of the readings being taken. Insulated clips are always furnished with one-half the quantity fitted with Red Insulators and the other half fitted with Black, unless otherwise specified, so that the colors may serve to indicate polarity of leads.

ORDERING REFERENCE

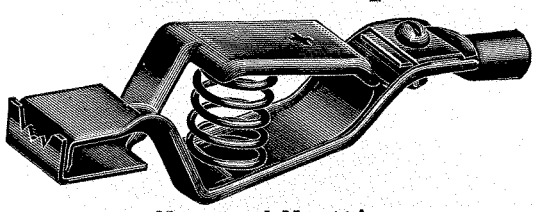
Specify Plate Number R10, Reference Number and Description

Ref. No.	Description	Capacity Amps.
1	No. 27 Bare Universal Test Clip, 2¼" length	10
2	Insulated Universal Test Clip, specify color	10
3	No. 29 Insulator only, for No. 27 Clip, specify color	

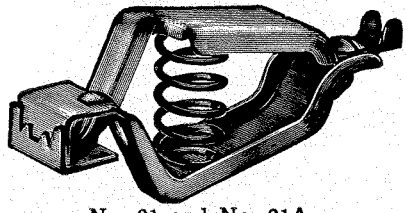
WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

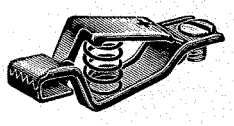
Universal Clips



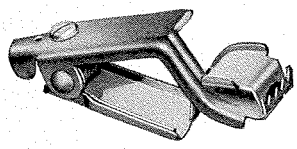
No. 11 and No. 11A



No. 21 and No. 21A



No. 48B



No. 121

ORDERING REFERENCE

Specify Plate Number R10, Reference Number and Description

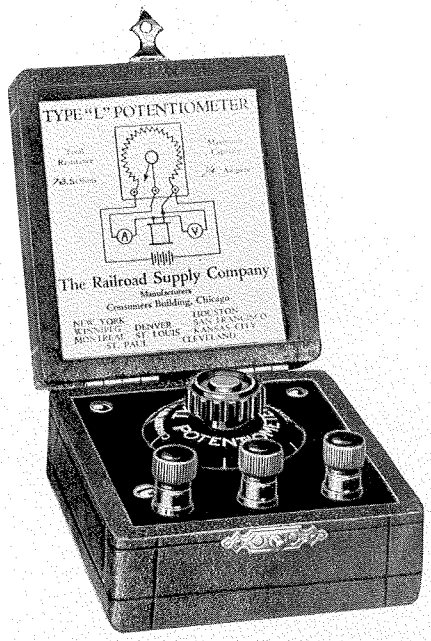
Ref. No.	Description	Spread of Jaws	Capacity Amps.
4	No. 45 Pee Wee Clip, 1½″ length	⅜″	
5	Insulated No. 45 Test Clip	⅜″	
6	No. 47 Insulator only for No. 45 Clip, specify color		
7	No. 48-B Cadmium Plated Test Clip, 1¾″ length	9/16″	
8	Insulated No. 48-B Test Clip, specify color	9/16″	
9	No. 50 Insulator only for No. 48-B Clip, specify color		
10	No. 24 Copper Test Clip, 2½″ length	1″	25
11	Insulated No. 24 Test Clip, specify color	1″	25
12	No. 24-A Lead Coated Battery Clip, 2½″ length	1″	25
13	Insulated No. 24-A Clip, specify color	1″	25
14	No. 26 Insulator only for No. 24 or No. 24-A clip		
15	No. 21 Copper Test Clip, lug connection, 4½″ length	1½″	50
16	Insulated No. 21 Test Clip, specify color	1½″	50
17	No. 21-A Lead Coated Battery Clip, 3⅞″ length	1½″	50
18	Insulated No. 21-A Clip, specify color	1½″	50
19	No. 23 Insulator only for No. 21 or No. 21-A Clip		
20	No. 11 Copper Test Clip, 5⅞″ length, lug connection	1¼″	100
21	Insulated No. 11 Test Clip, specify color	1¼″	100
22	No. 11-A Lead Coated Battery Clip, 5⅞″ length, lug connection	1¼″	100
23	Insulated No. 11-A Clip, specify color	1¼″	100
24	No. 13 Insulator only for No. 11 or No. 11-A Clip		
25	No. 33 Copper Test Clip, 7½″ length, lug connection	2″	200
26	Insulated No. 33 Test Clip, specify color	2″	200
27	No. 35 Insulator only for No. 33 Clip		
28	No. 121 Valley Battery Clip, overall length 2⅝″, acid resisting	¾″	25

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Type "L" Potentiometer-Rheostat

POCKET TYPE



Total Resistance, Approximately 75 ohms
Size: 2¼"x4"x4¼". Weight: 10 ounces

The Type "L" Potentiometer-Rheostat is an instrument of precision, designed for the accurate and rapid testing of relays, indicators, slots, etc. It is a high grade instrument which will meet the present day rigid requirements of signal engineers for the accurate and efficient testing and inspecting of signal apparatus.

This testing rheostat combines several features of merit which are at once apparent to anyone using them. The construction is such that it is impossible to burn out the instrument, a condition which heretofore was very liable to occur in potentiometers used for testing signal apparatus.

The resistance is controlled by a contact arm, having a rotary motion, operated by means of a knurled button of insulating material. This makes it possible for the operator to change the resistance with one hand, having the other hand free for other uses.

No live metal parts are touched by the hand, which might cause an incorrect reading, a condition which could occur during wet weather, if provision were not made to prevent it.

This instrument is enclosed in a substantial case. The insulated binding posts have non-removable nuts and there are no delicate parts exposed to mechanical injury.

ORDERING REFERENCE

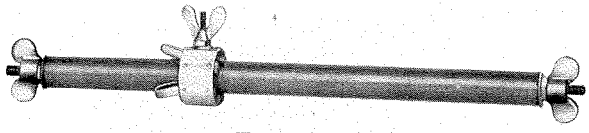
Specify Plate Number R20, Reference Number and Description

Ref. No.	Description
1	Type "L" Potentiometer-Rheostat

WESTERN RAILROAD SUPPLY COMPANY
CHICAGO NEW YORK

Slide Resistance Stick

POTENTIOMETER-RHEOSTAT



Type 1000
Total Resistance, 60 Ohms

The No. 1000 Slide Resistance Stick is made up for use in finding the "pick up" and "release" of relays or "operating current" and "release" of signals. When used with a Volt-Ammeter they make a complete testing outfit for the above work. Standard resistance is 60 ohms. Other resistances to order.

ORDERING REFERENCE
Specify Plate Number R26, Reference Number and Description

Ref. No.	Description
1	Type 1000 Slide Resistance Stick, complete, (60 ohms)
2	Resistance Stick, only (60 ohms)
3	Slider only

Adjustable Testing Resistance

A. R. A. DRAWING No. 1422A

A. R. A. No. 14221
Total Resistance, 310 Ohms

The number 14221 adjustable resistance is well known in the signal field and needs but brief description.

The total resistance is 310 ohms, consisting of two tubes having a resistance of 100 ohms each and a carrying capacity of 400 milliamperes, one tube of 50 ohms resistance having a carrying capacity of 600 milliamperes and one continuously variable resistance of 60 ohms total resistance. A continuously variable resistance is therefore available up to 310 ohms, which is ample for all practical signal circuit testing.

ORDERING REFERENCE
Specify Plate Number R26, Reference Number and Description

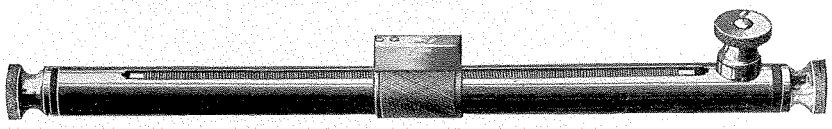
Ref. No.	Description
4	Type 14221 A.R.A. Adjustable Testing Resistance

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Test Rod

POTENTIOMETER-RHEOSTAT



Total Resistance, 60 Ohms—Length, 8½″

This instrument was designed for making rapid and accurate field tests of relays, slots, indicators, etc.

It consists of a resistance rod which is encased in a brass tube. A slide with a positive contact is arranged to make contact with the resistance wire when moved back and forth along the rod. This device is made in a substantial manner, no delicate parts to get out of order and the resistance wire and contact are protected against mechanical injury. When used as a regular potentiometer a very fine regulation of current and voltage is secured.

It can be used as an ordinary series rheostat. Inspectors will find this rod handy and convenient to carry in the pocket, being only 8½″ long and weighing 12 ounces.

Binding posts are non-removable.

ORDERING REFERENCE

Specify Plate Number R27, Reference Number and Description

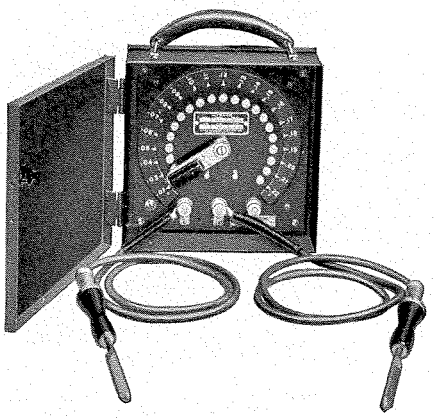
Ref. No.	Description
1	Test Rod, complete (60 ohms)

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Shuntohmeter

FOR TRACK CIRCUIT TESTING



Total Resistance 0.43 Ohm
Size 4"x9"x10". Weight 10 pounds

The Shuntohmeter meets the demands of railway signal men for a more compact, sturdy and reliable instrument for accurate testing of railway signal track circuits.

The resistance element is a continuous piece of nichrome ribbon of a capacity to carry 100 amperes. The adjustment is in 0.01 ohm steps from 0.02 ohm to 0.43 ohm.

Advantages

This instrument eliminates the more delicate and expensive apparatus now in use. Without the use of a voltmeter, ammeter and adjustable resistor, this unit makes it possible for a single operator to accomplish more circuit testing and from a simple calculation of the tabulated direct readings, the safety factor of the circuit is easily determined.

Operation

The operator merely sets the indicator arm on the dial at the normal resistance value of the circuit and prods the two rails with the hardened steel test points.

If the signal relay does not operate, the operations are repeated with the indicator arm set at the next lower value of resistancce on the dial.

Safety Factor

The safety factor of that section of the signal system tested is the difference between the normal value and the highest indicator value at which the relay responds.

Test Leads

Two flexible leads each five feet long and equipped with file-steel points are contained in the metal carrying case.

ORDERING REFERENCE

Specify Plate Number R28, Reference Number and Description

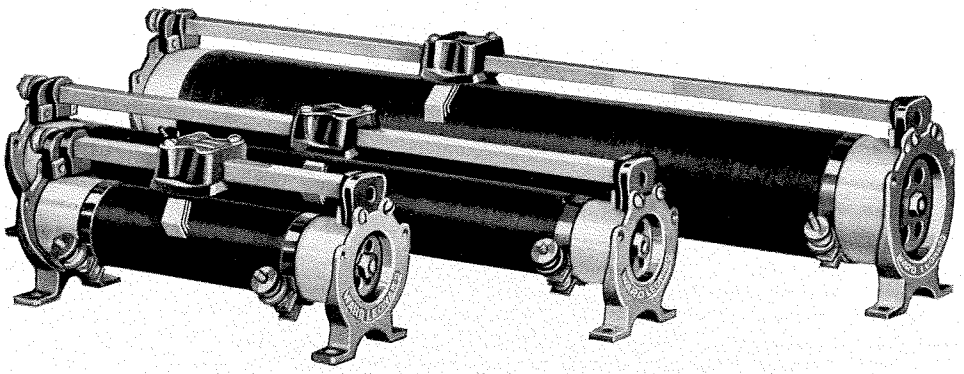
Ref. No.	Description	Price
1	Shuntohmeter complete with test Leads and Prods.....	$35.00

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Tubular Sliding Contact Rheostats

FOR LABORATORY AND GENERAL USE



Single Slide Type

Sliding contact rheostats are designed for the accurate control of relatively small potentials and currents. Essentially, these instruments consist of an insulated metal tube of thin wall section upon which is wound resistance wire of appropriate characteristics. One or two sliding contacts are supported by metal bars running parallel to the surface of the resistance wire.

Provision is made so that these rheostats may be potentiometer connected; each end of the resistance wire forms one terminal connection, and the sliding contact forms the third.

The metal tube upon which the resistance wire is wound is coated with fused-on enamel. This enamel is similar in characteristics to that with which Vitrohm Resistors are protected. Its temperature coefficient of expansion is identical with that of the supporting tube. It will not chip or crack under repeated heating and cooling within very wide limits.

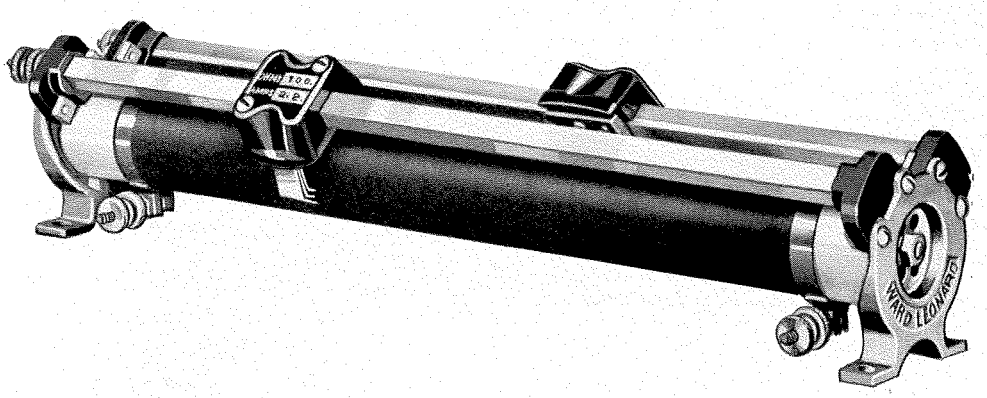
The resistive element in these rheostats consists of the highest grade resistance wire, which has a low temperature coefficient of resistivity. To conserve space, the wire is wound on the metal tube with no space between adjacent turns. An oxide film which is carefully and completely formed on the surface of the wire acts as the insulating agent. This film, together with low potential drop across individual turns of wire, effectively presents short circuits between adjacent turns.

The circuit between the sliding contact and the resistance wire is maintained by laminated phosphor-bronze brushes. Contact is firm and positive, but without the "dragging" effect which tends to make fine adjustments difficult.

The terminal band is placed at a sufficient distance from the mounting band to prevent short circuits at this point even when maximum potentials are placed across the rheostat. They are insulated to stand 600 volts to ground. The current-carrying capacity, of course, is determined by the value of resistance of the particular instrument in use and is shown in the table on opposite page.

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK



Double Slide Type
(See Note)

ORDERING REFERENCE

Specify Plate Number R30, Reference Number and Description

Description—Tubular Sliding Contact Rheostat

Resistance in Ohms	8-INCH RHEOSTAT			16-INCH RHEOSTAT			20-INCH RHEOSTAT		
	Ref. No.	Maximum Amperes*	Price	Ref. No.	Maximum Amperes*	Price	Ref. No.	Maximum Amperes*	Price
6	**1**	5.3	$8.50	**22**	9.	$11.00			
8	**2**	4.5	8.50	**23**	7.75	11.00			
12	**3**	3.8	8.50	**24**	6.4	11.00	**46**	9.	$17.50
17	**4**	3.2	8.50	**25**	5.3	11.00	**47**	7.75	17.50
25	**5**	2.7	8.50	**26**	4.5	11.00	**48**	6.4	17.50
35	**6**	2.2	8.50	**27**	3.8	11.00	**49**	5.3	17.50
50	**7**	1.9	8.50	**28**	3.2	11.00	**50**	4.5	17.50
70	**8**	1.6	8.50	**29**	2.7	11.00	**51**	3.8	17.50
100	**9**	1.35	8.50	**30**	2.2	11.00	**52**	3.2	17.50
140	**10**	1.1	8.50	**31**	1.9	11.00	**53**	2.7	17.50
195	**11**	.95	8.50	**32**	1.6	11.00	**54**	2.2	17.50
275	**12**	.8	8.50	**33**	1.35	11.00	**55**	1.9	17.50
400	**13**	.67	8.50	**34**	1.1	11.00	**56**	1.6	17.50
560	**14**	.57	8.50	**35**	.95	11.00	**57**	1.35	17.50
800	**15**	.48	8.50	**36**	.8	11.00	**58**	1.1	17.50
1200	**16**	.4	8.50	**37**	.67	11.00	**59**	.95	17.50
1500	**17**	.35	8.50	**38**	.57	11.00	**60**	.8	17.50
2200	**18**	.29	8.50	**39**	.48	11.00	**61**	.67	17.50
3200	**19**	.24	11.00	**40**	.4	11.00	**62**	.57	17.50
4500	**20**	.2	11.50	**41**	.35	11.00	**63**	.48	17.50
6500	**21**	.17	14.50	**42**	.29	11.00	**64**	.4	17.50
9000				**43**	.24	15.00	**65**	.35	17.50
13000				**44**	.2	16.00	**66**	.29	23.00
19000				**45**	.17	19.00	**67**	.24	25.00
27000							**68**	.2	31.00
38000							**69**	.17	35.00

*Maximum Amperes is the current-carrying capacity of the rheostat when 10% of the resistance is in the circuit.

NOTE: Double Slide type furnished only when specified on the order. Add $7.50 each to above prices when Double Slide instrument is required.

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Test-O-Lite

The Test-O-Lite is a safe, convenient and time saving instrument for testing and locating trouble in circuits from 100 to 550 Volts A. C. or D. C. The Test-O-Lite neon lamp tells polarity on Direct Current Circuits. It has two electrodes—only negative electrode lights on direct current circuits; both electrodes light on alternating current circuits.

This instrument locates burnt-out fuses instantly, electric light and motor troubles and faults in circuits in various electrical appliances. The Electrical Railroad Signal and Electrical Maintenance Worker should be equipped with a Test-O-Lite for use around interlockings, signals, transformers, storage battery charging outfits, fuse cut-outs, stations, shops, electric engines, etc.

This instrument is attractively finished in bakelite and is so substantial that it will last a lifetime. Being no larger than an ordinary size fountain pen, it is very convenient to carry.

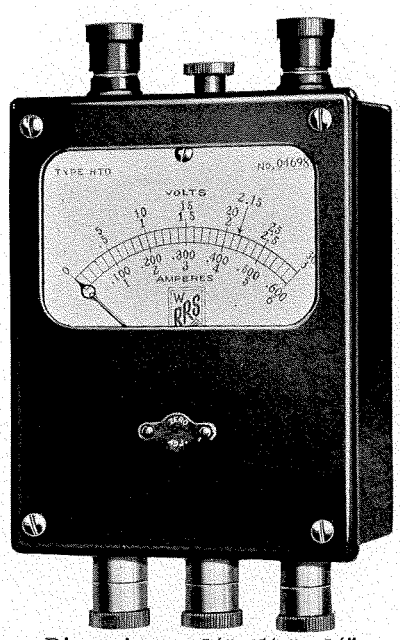
ORDERING REFERENCE

Specify Plate Number R39, Reference Number and Description

Ref. No.	Description
1	Test-O-Lite, testing instrument for use on 100-550 volts A.C. or D.C.

WESTERN RAILROAD SUPPLY COMPANY
CHICAGO NEW YORK

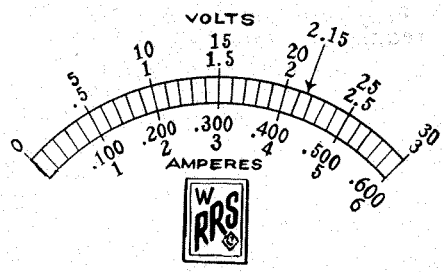
WRRS Co. Signalmen's Pocket Volt-Ammeter
FOR DIRECT CURRENT



Dimensions: 5¼"x3 3/32"x1½"
Scale length: 2.1"
Net weight: 20 ounces

Ranges
0-3-30 Volts
0-.600-6 Amperes

TYPE HTD NO. 046988



Full Size

The Signalmen's Pocket Volt-Ammeter is of special design, small in size, yet rugged and guaranteed accurate to meet requirements for maintainers' and inspectors' use. Mechanisms are of the d'Arsonval Type and are so mounted that parts cannot get out of alignment. Springs are phosphor bronze well aged to minimize zero shifting. All instruments are provided with convenient and efficient zero adjuster. Magnetic damping insures "dead-beat" action of moving element. Dials are pure white Bristol board and individually calibrated. Connections are in the form of binding posts with non-removable tops, so arranged that the binding posts cannot turn.

The Improved Signalmen's Scale

The ranges selected for the WRRS Co. Pocket Volt-Ammeter permit the measurement of current or voltage of almost any signaling circuit. A full sized reproduction of the scale appears above.

On the three-volt scale, the numerals 2.15 and an arrow mark at this point are shown on the dial to facilitate the testing of individual cells of lead storage battery on floating charge.

ORDERING REFERENCE

Specify Plate Number R114, Reference Number and Description

Description—WRRS Co. Signalmen's Pocket Volt-Ammeter

Ref. No.	Range Volts	Value Per Scale Division	Range Amperes	Value Per Scale Division	Price
1	0-3 0-30	0.1 Volt 1. Volt	0-0.60 0-6.	0.02 Amp. 0.2 Amp.	$25.00

Ref. No. 2—Leather Carrying Case for WRRS Co. Signalmen's Pocket Volt-Ammeter (Piece No. 12206). Price.....$3.25

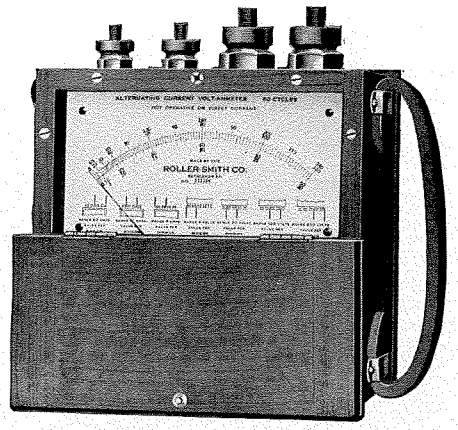
WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Type ISA Volt-Ammeter

ALTERNATING CURRENT

The rapid advances made in electric signaling and train control devices show the increasing tendency toward the use of alternating current, and, as in the case of the direct current apparatus, suitable instruments are requisite. The problem of their design was, however, of much greater magnitude, and was solved only after long and expensive design and experimental work. This alternating current volt-ammeter finds favor with those who heretofore have been forced to use a varied assortment of ammeters and voltmeters ranging in number from two to five or more.



Dimensions, 7x6⅞x4¼ Inches
Weight, 7 Pounds

The case is black walnut and handsome in appearance. It is provided with a substantial leather handle, hinged cover and snap catch. Binding posts are heavy and have non-removable tops. Each binding post is legibly marked with a numeral corresponding to the scale value which is obtained when the binding post is employed. A zero adjuster convenient for manipulation is incorporated. Particular attention is called to the method of indicating by diagrams on the dial the proper connections for the seven different ranges, and data covering the value per scale division. The instruments operate only on alternating current and are calibrated for the frequency on which they are to be used.

Scales are 5.15″ long. Dials are not affected by moisture or by changes in temperature. Accuracy is within 1% of full scale value at any point on the scale where frequency is within 3% of that for which the instrument is calibrated.

We invite correspondence regarding special combinations not listed.

ORDERING REFERENCE

Specify Plate Number R210, Reference Number, Description and Frequency

Description—Type ISA Volt-Ammeter

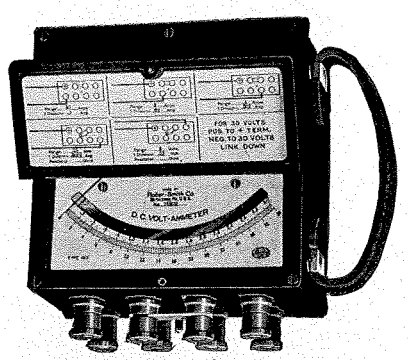
Ref. No.	Mfrs. No.	Ranges	Value per Scale Div.	Ref. No.	Mfrs. No.	Ranges	Value per Scale Div.	Ref. No.	Mfrs. No.	Ranges	Value per Scale Div.
		0-6V	.05 Volt			0-6V	.04 Volt			0-6V	.04 Volt
		0-30V	.25 Volt			0-15V	.1 Volt			0-15V	.1 Volt
		0-120V	1. Volt			0-150V	1. Volt			0-150V	1. Volt
1	1005	0-240V	2. Volts	2	1028	0-300V	2. Volts	3	1046	0-300V	2. Volts
		0-3A	.025 Amp.			0-3A	.02 Amp.			0-1.5A	.01 Amp.
		0-12A	.1 Amp.			0-15A	.1 Amp.			0-3A	.02 Amp.
		0-60A	.5 Amp.			0-30A	.2 Amp.			0-7.5A	.05 Amp.
Price			$160.00				$170.00				$187.00

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Type ISD Volt-Ammeter

DIRECT CURRENT



Dimensions, 6½x6¼x4 Inches
Weight, 8 Pounds

The Type ISD volt-ammeter was designed with the particular requirements of signal engineers and supervisors in mind, and in addition, it has found favor for laboratory testing where high accuracy is required. The various ranges which are incorporated provide means for the great variety of tests which have to be made.

The movement is an improved d'Arsonval type, insuring uniform scale divisions and dead beat indications. Ruggedness has not been sacrificed and experience has shown that these instruments will continue to give good service even under the severe conditions which are frequently encountered.

The solid aluminum case is black enamel finished with triple-hinged cover, snap catch and stout leather handle. The case is so designed that it is dust- and water-proof. Binding posts are very heavy, as may be seen, having non-removable tops and are plainly marked with numerals indicating scale value.

A zero adjuster of convenient and efficient design is incorporated. Scales are hand calibrated and dials are not affected by moisture or by changes in temperature.

Accuracy is within ½ of 1% of full scale value at any point on the scale. Scales are 5¼ inches long.

It will be noted that in the cover are shown diagrams of connections for the various ranges. This is a great convenience as it enables proper connections to be quickly made.

The instrument is entirely self-contained, there being no external multipliers or shunts.

ORDERING REFERENCE

Specify Plate Number R211, Reference Number and Description

Description—Type ISD Volt-Ammeter

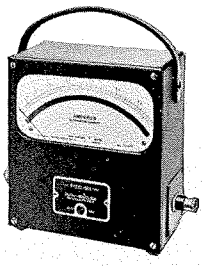
Ref. No.	Mfrs. No.	Ranges	Value Per Scale Division	List Price	Ref. No.	Mfrs. No.	Ranges	Value Per Scale Division	List Price
1	1000	0- 3. Volts 0- 30. " 0- .150 Amp. 0- 1.5 Amps. 0- 15. "	.02 Volt .2 " .001 Amp. .01 " .1 "	$100.00	4	*1008 S	0- 3. Volts 0- 30. " 0- .03 Amp. 0- .3 " 0- 3. Amps. 0- 30. "	.02 Volt .2 " .0002 Amp. .002 " .02 " .2 "	$115.00
2	1001 S	0- 3. Volts 0- 30. " 0-150. " 0- .150 Amp. 0- 1.5 Amps. 0- 15. "	.02 Volt .2 " 1. " .001 Amp. .01 " .1 "	115.00	5	*1010	0- 3. Volts 0- 15. " 0-150. " 0- .150 Amp. 0- 1.5 Amps. 0- 15. "	.02 Volt .1 " 1. " .001 Amp. .01 " .1 "	115.00
3	1002	0- 3. Volts 0- 30. " 0-300. " 0- .150 Amp. 0- 1.5 Amps. 0- 15. "	.02 Volt .2 " 2. Volts .001 Amp. .01 " .1 "	130.00	6	1014	0- 1.5 Volts 0- 15. " 0-150. " 0- .150 Amp. 0- 1.5 Amps. 0- 15. "	.01 Volt .1 " 1. " .001 Amp. .01 " .1 "	115.00

*No. 1008 is A.R. A. Sig. Sec. Combination No. 1, No. 1010 is A. R. A. Sig. Sec. Combination No. 2.
"S" indicates items carried in stock.

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

"Steel-Six" Alternating Current Portable Instruments



The "Steel-Six" Alternating Current instrument is designed for general shop use. Average size 6"x6"x3½". Binding posts are of the non-removable type. The mechanism is of the electro-magnet type with efficient air damping which insures dead beat action. Scale is 5 3/16" long. Pointer is of the knife edge type and a mirror is located under it to enable close readings. Zero adjuster is provided. Each instrument is individually calibrated. Guaranteed accuracy is within ½ of 1% of full scale value.

NOTE: "Steel-Six" instruments may also be obtained in Wattmeters, Power Factor Meters, Frequency Meters, and Double and Triple Voltmeters.

ORDERING REFERENCE

Specify Plate Number R214, Reference Number and Description
Description—"Steel-Six" Instrument

AMMETERS and MILLI-AMMETERS

Ref. No.	Range	Value per Division	Price
1	Capacity 5 Amps.	Scale to Suit Transformer	$30.00
2	0–100 M.A.	1. M. A.	30.00
3	0–250	2.	30.00
4	0–500	5.	30.00
5	0–750	5.	30.00
6	0–1 Amp.	.01 Amp.	30.00
7	0–1.5	.01	30.00
8	0–3	.02	30.00
9	0–5	.05	30.00
10	0–10	.1	30.00
11	0–15	.1	30.00
12	0–25	.2	30.00
13	0–50	.5	30.00
14	0–75	.5	35.00

VOLTMETERS

Ref. No.	Range	Value per Scale Division	Price
19	Capacity 150 Volts	Scale to Suit Transformer	$32.00
20	0–10 Volts	.1	32.00
21	0–15	.1	32.00
22	0–30	.2	32.00
23	0–50	.5	32.00
24	0–75	.5	32.00
25	0–100	1.	32.00
26	0–150	1.	32.00
27	0–300	2.	34.00
28	0–500	5.	44.00
29	0–600	5.	44.00
30	0–750	5.	47.50

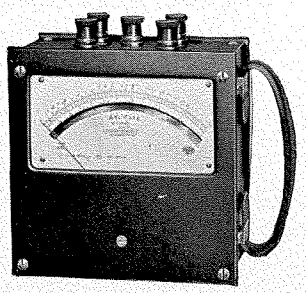
MULTIPLE RANGE VOLTMETERS

32	0–150 Volts 0–300 Volts	1. 2.	$42.00
33	0–150 Volts 0–300 Volts 0–600 Volts	1. 2. 4.	60.00

Type GWA Voltmeter

ALTERNATING CURRENT

The Type GWA Voltmeter has four self-contained ranges and has the same physical dimensions, scale length and general appearance as the Type GSA. Mechanism consists of a thermo-couple and a permanent magnet "d'Arsonval" form of movement. The Type GWA Voltmeter can be supplied in the following combination of ranges:



Type GWA Voltmeter
Size 7"x7"x4½"

ORDERING REFERENCE

Specify Plate Number R214, Reference Number and Description
Description—Type GWA Voltmeter

Ref. No.	Mfrs. No.	*Ranges	Value per Scale Division	List Price
31	1040	0- .5 Volt 0-2. Volts 0-5. " 0-20. "	.005 Volt .02 " .05 " .2 "	$105.00

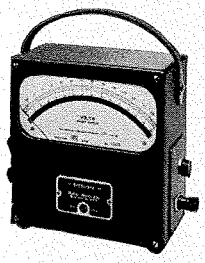
*Scales are readable from about 20% to 100% of full scale value
Resistance is over 20 ohms per volt.

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

"Steel-Six"

DIRECT CURRENT PORTABLE INSTRUMENTS



The "Steel-Six" Direct Current Instrument is similar in appearance to the "Steel-Six" A. C. Instruments described on Plate R214. Mechanism is of the D'Arsonval permanent-magnet-moving-coil type.

ORDERING REFERENCE

Specify Plate Number R215, Reference Number and Description

Description—"Steel-Six" Instrument

AMMETERS and MILLI-AMMETERS

Ref. No.	Range	No. of Divs.	Value Per Div.	Price
1	0–50 M.V.		Ampere Scale to suit shunt	$38.00
2	0–5 M.A.	100	.05 M.A.	40.00
3	0–10	100	.1	40.00
4	0–15	150	.1	38.00
5	0–25	125	.2	38.00
6	0–50	100	.5	38.00
7	0–100	100	1.	38.00
8	0–250	125	2.	38.00
9	0–500	100	5.	38.00
10	0–750	150	5.	38.00
11	0–1 Amp.	100	.01 Amp.	38.00
12	0–1.5 A.	150	.01	38.00
13	0–3 A.	150	.02	38.00
14	0–5	100	.05	38.00
15	0–10	100	.1	38.00
16	0–15	150	.1	38.00
17	0–25	125	.2	38.00
18	0–50	100	.5	38.00
19	0–75	150	.5	41.50

VOLTMETERS

Ref. No.	Range	No. of Divs.	Value Per Div.	Price
27	0–1.5 Volts	150	.01 Volt	$38.00
28	0–3	150	.02	38.00
29	0–10	100	.1	38.00
30	0–15	150	.1	38.00
31	0–25	125	.2	38.00
32	0–50	100	.5	38.00
33	0–75	150	.5	38.00
34	0–100	100	1.	38.00
35	0–150	150	1.	38.00
36	0–300	150	2. Volts	41.00
37	0–600	120	5.	46.00
38	0–750	150	5.	49.00
39	0–3 Volts 0–150	150	.02 V. 1. Volt	40.50
40	0–150 0–300	150	1. 2. Volts	43.50
41	0–150 0–750	150	1. Volt 5. Volts	52.50
42	0–150 0–300 0–750	150	1. Volt 2. Volts 5.	56.00

Millivoltmeters are available in this type. Bulletin on request.

VOLT-AMMETERS

Ref. No.	Ampere Ranges	Voltage Ranges	No. Scale Divisions	Value per Division	Price
46	0–3 & 0–6	0–3 & 0–30	150		†$64.00
47	0–.3 & 0–3 & 0–30	0–3 & 0–30 & 0–150	150		* 71.00
48	0–.3 & 0–3 & 0–30	0–.15 & 0–3 & 0–30	150		* 71.00
49	0–.15 & 0–1.5 & 0–15	0–3 & 0–15 & 0–150	150		* 71.00
50	0–.15 & 0–1.5 & 0–15	0–1.5 & 0–15 & 0–150	150		* 71.00
51	0–.15 & 0–1.5 & 0–15	0–3 & 0–30 & 0–150	150		* 71.00

†If fuses for each range are desired add $12.00 list.
*If fuses for each range are desired add $16.00 list.
Prices will be quoted on application on other combinations not listed.

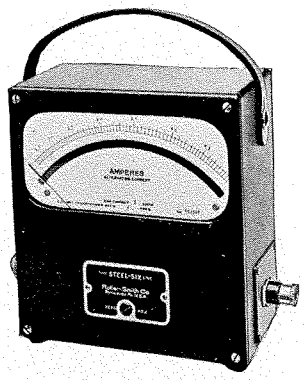
WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

"Steel-Six" Ammeters and Voltmeters

ALTERNATING CURRENT

The "Steel-Six" Instruments are listed in ranges corresponding to those called for in the A.R.A., Signal Section, specifications.



"Steel-Six" Voltmeter
Dimensions, 6"x6"x3½"
Scale length, 5 3/16"

ORDERING REFERENCE

Specify Plate Number R216, Reference Number and Description

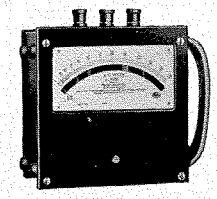
Description—"Steel-Six" Ammeters

Ref. No.	*Ranges	Value per Scale Division	List Price
1	0–0.15 Amp.	.001 Amp.	$30.00
2	0–0.5 "	.005 "	30.00
3	0–2. Amps.	.02 "	30.00
4	0–5. "	.05 "	30.00
5	0–15. "	.1 "	30.00
6	0–50. "	.5 "	30.00
Description—"Steel-Six" Triple Range Voltmeter			
8	0–60 Volt 0–120 " 0–240 "	.5 Volt 1.0 " 2.0 "	$50.00

*Readable portion of scale of Ammeters and Voltmeters is from 20% of scale to full scale.

Type GSA-3 Ammeter

ALTERNATING CURRENT



Type GSA-3
Ammeter

The Type GSA-3 Ammeter is about 7"x7"x4½" and the scale is 5.15" long. The Type GSA-3 Ammeter has three self-contained ranges with magnetic shielding and differs in that it is provided with a switch so arranged that, in moving the switch from one range to another or to the short-circuit position, the circuit will never be opened. Type GSA-3 Ammeter may be used on 25, 60 or 100 cycles.

The following two combinations of current ranges are available:

ORDERING REFERENCE

Specify Plate Number R216, Reference Number and Description

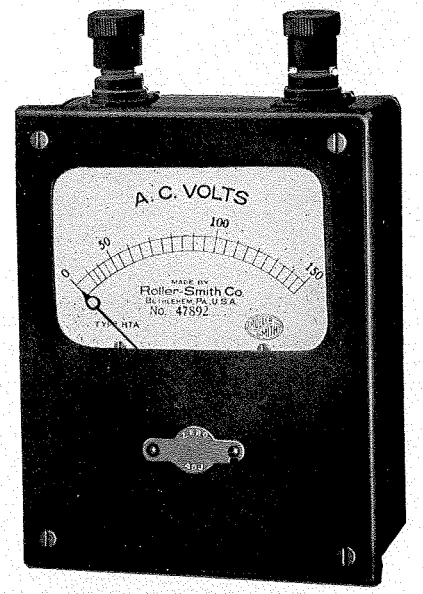
Description—Type GSA-3 Ammeters

Ref. No.	Mfrs. No.	*Ranges	Value per Scale Division	List Price
11	1036	0- .1 Amp. 0- .25 " 0-1. "	.001 Amp. .0025 " .01 "	$70.00
12	1038	0-2 Amps. 0-5 " 0-20 "	.002 " .05 " .2 "	70.00

*Scales are readable from about 20% of Scale to full scale value.

Type HTA Ammeters and Voltmeters

ALTERNATING CURRENT



Type HTA Voltmeter
Dimensions, 4½"x3 3/32"x1½"
Net weight, 20 ounces
Scale length, 2.1 inches

ORDERING REFERENCE

Specify Plate Number R217, Reference Number and Description

Description—Type HTA Ammeters

Ref. No.	Ranges	Value per Scale Division	List Price
9	0–.15 Amp.	.005 Amp.	$14.50
10	0–.5 "	.02 "	14.50
11	0–2. Amps.	.05 "	14.50
12	0–5. "	.1 "	14.50
13	0–15. "	.5 "	14.50
14	0–50. "	2.0 Amps.	14.50

Description—Type HTA Triple Range Voltmeter

Ref. No.	Ranges	Value per Scale Division	List Price
15	0–60 Volts 0–120 " *0–240 "	1.5 Volts 3.0 " 6.0 "	$16.50

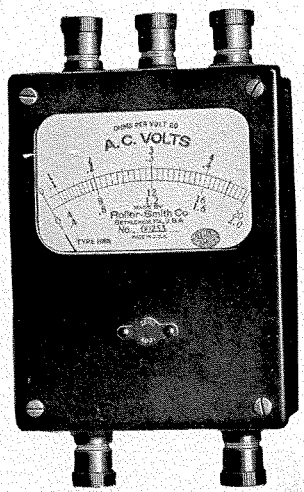
Readable portion of scale of Ammeters and Voltmeters is from 20% of scale to full scale. *External Resistor supplied for the 240 volt range.

Ref. No. 20—Leather Carrying Case to accommodate any of the above Type HTA Ammeters. (Piece No. 12206)..... **$3.25**

Ref. No. 21—Leather Carrying Case to accommodate the above Type HTA Voltmeter. (Piece No. 3880)..... **7.60**

Type HWA Voltmeters

ALTERNATING CURRENT



Type HWA Voltmeter

The Type HWA Voltmeters are similar in dimensions, scale length and general appearance to the Type HTA instruments. Form of mechanism, resistance values and the fact that the instrument can be used on any commercial frequency are the same as in the case of GWA Voltmeters described on plate R-214.

ORDERING REFERENCE

Specify Plate No. R217, Reference Number and Description

Description—Type HWA Four Range Voltmeter

Ref. No.	Mfrs. No.	*Ranges	Value per Scale Division	List Price
25	†1042	0–.5 Volt 0–2 Volts 0–5 " 0–20 "	.025 Volt 1.1 " .25 " 1. "	$85.00
26	‡1044	0–1 Volt 0–5 Volts 0–25 " 0–125 "	.04 Volt .2 " 1.0 " 5.0 Volts	85.00

†At an extra list price of $9.00 the Cat. No. 1042 can be supplied with an external resistor to increase the 20 volt range to 120 volts.
‡External resistor supplied for the 125 volt range.
*Scales are readable from about 20% of scale to full scale value.

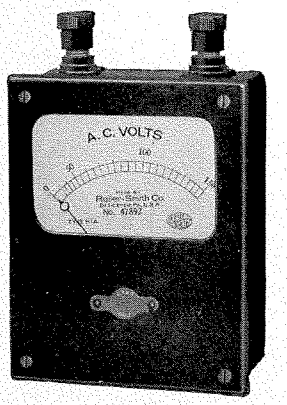
Pocket Portables
Ohmmeters
Ground Detectors
Graphics

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Type HTA Instruments

FOR ALTERNATING CURRENT



These instruments are suitable for general testing of A. C. motor and generator circuits, light and power circuits, household appliances, etc. They are useful to electrical contractors, plant electricians, signalmen and "trouble shooters."

ORDERING REFERENCE

Specify Plate Number R227, Reference Number and Description

Description—Type HTA Ammeters

Ref. No.	Range in Amperes	Value per Scale Division	Price
1	0-100 M. A.	2.5 M. A.	$14.50
2	0-250	10.0	14.50
3	0-500	20.0	14.50
4	0-1.5 Amps.	.05 Amp.	14.50
5	0-3	.1	14.50
6	0-5	.2	14.50
7	0-10	.25	14.50
8	0-15	.5	14.50
9	0-30	1.0	14.50
10	0-50	2.0 Amps	14.50

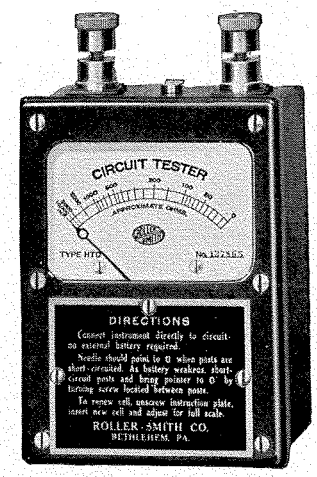
Description—Type HTA Voltmeters

Ref. No.	Range in Volts	Value per Scale Division	Price
11	0-10 Volts	.25 Volt	$14.50
12	0-15	.5	14.50
13	0-30	1.0	14.50
14	0-50	2.0 Volts	14.50
15	0-100	2.5	14.50
16	0-150	5.0	14.50

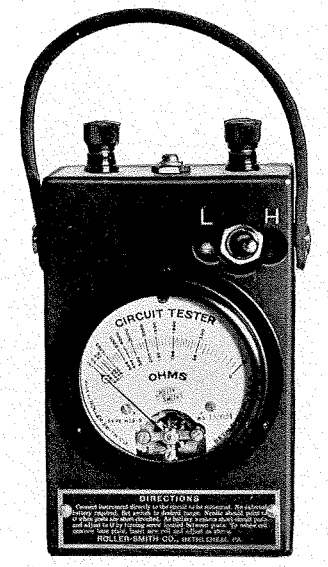
WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Type HTD Circuit Tester



Cat. No. 3009
Type HTD Circuit Tester
Scale 0-10,000 Ohms



Cat. No. 3015
Type HTD-2 Circuit Tester
Two scales, 0-5,000 and
0-50,000 Ohms

The uses of the HTD Circuit Tester are two-fold. The instrument can be used to ascertain if there is an electrical circuit existing between conductors applied to the terminals of the instrument, and secondly, it enables the user to read the resistance of the circuit under test. The Type HTD Circuit Tester is recommended for use in preference to other schemes such as magnetos and A. C. bell ringing devices because of its accuracy of indications under all conditions. It is not affected by capacity or inductance. It is light in weight and small in size, making it very convenient to handle. The instrument consists of a high grade d'Arsonval D. C. Voltmeter connected in series with a small dry cell. The dry cell is in the form of a flash light battery and is connected inside the case. The scales read directly in ohms. The circuit is such that when the two terminals are connected the circuit is complete. The instrument pointer will indicate full scale when the terminals are short circuited.

ORDERING REFERENCE

Specify Plate Number R228, Reference Number and Description

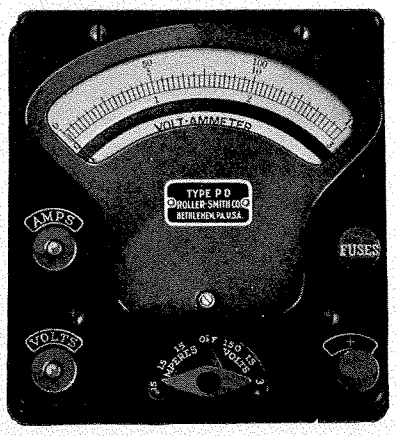
Ref. No.	Mfrs. No.	Description	Price
1	3009	Type HTD Circuit Tester scale 0-10,000 ohms	$17.00
2	3012	Leads for use with Cat. 3009 HTD tester	2.85
3	12206	Leather Carrying Case for use with HTD Tester	3.25
4	3015	Type HTD Circuit Tester with leads, Two scales, 0-5,000 and 0-50,000 ohms	23.25

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Type PD

DIRECT CURRENT VOLT-AMMETERS



Dimensions: 5"x4½"x1⅝". Scale Length: 3 5/16".

For maintenance work and general testing where low cost, lightness, and compactness are paramount, the Type P. D. Volt-Ammeter is recommended.

The movement employed in the Type P. D. is a high grade d'Arsonval instrument utilizing material of the highest quality throughout. Ceylon sapphire jewels are used for bearings, and the pointers are of extra heavy construction as a protection against the rough service to which portables of this sort are apt to be subjected.

The scale length of $3\frac{5}{16}$" is unusual in an instrument of this size, and it is accomplished largely by designing the window opening and base size to the maximum possibilities. Every scale is hand calibrated and drawn with hair line divisions. A mirror is provided which enables the instrument to be read with the same precision as with larger sized portables.

Connections are made to the instrument by attaching leads to binding posts placed upon the top of the base, which position gives complete view of the top of the base and the marker which is used to label each binding post. All binding posts are of the non-removable top type and are plainly marked.

The fuse consists of a six fuse unit contained in a holder that resembles a binding post and which is mounted on the top of the base adjacent to the regular posts. In the event of an instrument being connected to a current in excess of the capacity of the circuit to which it is attached, the fuse will blow and save the instrument springs and windings from damage. To insert a new fuse it is only necessary to unscrew a cap, rotate the fuse 60 degrees and screw down the cap again. This operation can be repeated until all six fuses have been used up, after which a new holder can be inserted.

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

ORDERING REFERENCE

Specify Plate Number R230, Reference Number and Description

Description—Type P.D. Direct Current Volt-Ammeter

Double Range Instruments—60 Division Scale
Without Selector Switch or Fuses.

Ref. No.	Mfrs. No.	Range Volts	Range Amperes	Price
1	**1050	0–3–30	0–0.3–6	$40.25
2	1058	0–3–30	0–0.6–6	40.25
		With Selector Switch but without Fuses.		
3	**1052	0–3–30	0–0.3–6	$43.00
4	1060	0–3–30	0–0.6–6	43.00
		With Fuses but without Selector Switch.		
5	**1054	0–3–30	0–0.3–6	$45.25
6	1062	0–3–30	0–0.6–6	45.25
		With both Selector Switch and Fuses.		
7	**1056	0–3–30	0–0.3–6	$48.00
8	1064	0–3–30	0–0.6–6	48.00
		Triple Range Instruments—60 Division Scale Without Selector Switch or Fuses.		
9	*1066	0–3–30	0–0.03–0.3–3–30	$45.50
10	1074	0–1.5–15–150	0–0.15–1.5–15	45.50
11	†1082	0–3–15–150	0–0.15–1.5–15	45.50
12	1090	0–3–15–150	0–0.3–1.5–15	45.50
		With Selector Switch but without Fuses.		
13	*1068	0–3–30	0–0.03–0.3–3–30	$48.25
14	1076	0–1.5–15–150	0–0.15–1.5–15	48.25
15	†1084	0–3–15–150	0–0.15–1.5–15	48.25
16	1092	0–3–15–150	0–0.3–1.5–15	48.25
		With Fuse but without Selector Switch.		
17	1070	0–3–30	0–0.03–0.3–3–30	$50.50
18	1078	0–1.5–15–150	0–0.15–1.5–15	50.50
19	†1086	0–3–15–150	0–0.15–1.5–15	50.50
20	1094	0–3–15–150	0–0.3–1.5–15	50.50
		With Both Selector Switch and Fuses.		
21	*1072	0–3–30	0–0.03–0.3–3–30	$53.25
22	1080	0–1.5–15–150	0–0.15–1.5–15	53.25
23	†1088	0–3–15–150	0–0.15–1.5–15	53.25
24	1096	0–3–15–150	0–0.3–1.5–15	53.25

*A. R. A. Combination No. 1.
†A. R. A. Combination No. 2.
**A. R. A. Combination No. 3.

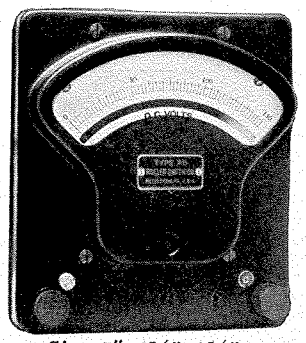
Ref. No. 25—Leather Carrying Case for Type P. D. Volt-Ammeter. Price..$3.25

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Type PD Ammeters, Voltmeters, Milliammeters and Millivoltmeters

FOR DIRECT CURRENT



Size 5"x4½"x1⅝"

While these instruments are of the "Pocket Type" class of Portables their construction and accuracy is of the highest.

Accuracy 1% of full scale value.

Scale length—3 5/16".

Knife edge pointer with slotted mirror scale.

Movement—Permanent magnet moving coil d'Arsonval.

Jewel Bearings—Ceylon Sapphire.

ORDERING REFERENCE

Specify Plate Number R232, Reference Number and Description

Description—Type PD Ammeter or Milliammeter

Ref. No.	Mfrs. No.	Range	Value per Scale Division	Price
1	1204	0–10 M. A.	.1 M. A.	$26.00
2	1205	0–15	.2	26.00
3	1206	0–25	.25	26.00
4	1207	0–50	.5	26.00
5	1208	0–100	1.	26.00
6	1214	0–500	5.	26.00
7	1221	0–1.5 Amps.	.02 Amp.	26.00
8	1222	0–3	.05	26.00
9	1223	0–5	.05	26.00
10	1224	0–10	.1	26.00
11	1225	0–15	.2	26.00
12	1227	0–30	.5	26.00
13	1229	0–50	.5	26.00

Ammeters of higher ranges may be had by use of 50 MV capacity instruments together with proper shunts. Prices on application.

Description—Type PD Voltmeter or Millivoltmeter

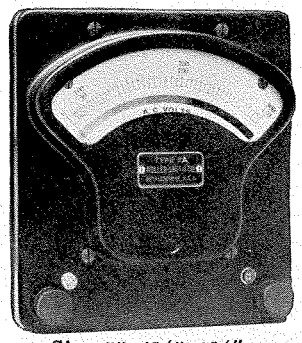
14	1240	0–50 M. V.	.5 M. V.	$26.00
15	1241	0–100	1.	26.00
16	1243	0–500	5.	26.00
17	1245	0–1.5 Volts	.02 Volt	26.00
18	1246	0–3	.05	26.00
19	1248	0–10	.1	26.00
20	1249	0–15	.2	26.00
21	1251	0–30	.5	26.00
22	1252	0–50	.5	26.00
23	1255	0–100	1.	26.00
24	1256	0–150	2. Volts	26.00
25	1258	0–300	5.	28.25

For double range voltmeters or double range self-contained ammeters add $2.00 to list price of higher range; for triple range add $4.00.

26	12980	Leather Carrying Cases.....	$3.25

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK



Size 5"x4½"x1⅝"

Type PA Ammeters, Voltmeters and Milliammeters

FOR ALTERNATING CURRENT

These instruments are similar in appearance to the PD direct current line of instruments.

Accuracy 1½% of full scale value.

Scale length—$3\frac{5}{16}$".

Knife edge pointer with slotted mirror scale.

Movement—Stationary coil moving iron vane —Electro Magnet.

Jewel Bearings—Ceylon Sapphire.

ORDERING REFERENCE

Specify Plate Number R233, Reference Number and Description

Description—Type PA Ammeters or Milliammeters

Ref. No.	Mfrs. No.	†Range	Value per Scale Division	Price
1	1540	0–50 M. A.	1. M. A.	$26.00
2	1541	0–100	1.25	26.00
3	1544	0–300	5.	26.00
4	1546	0–500	10.	26.00
5	1548	0–1 Amps.	.0125 Amp.	26.00
6	1549	0–1.5	.025	26.00
7	1550	0–3	.05	26.00
8	1551	0–5	.1	26.00
9	1552	0–10	.125	26.00
10	1553	0–15	.25	26.00
11	1554	0–30	.5	26.00
12	1555	0–50	1.	26.00
Description—Type PA Voltmeters				
13	1560	0–10 Volts	.125 Volt	$26.00
14	1561	0–15	.25	26.00
15	1564	0–30	.5	26.00
16	1565	0–50	1.	26.00
17	1566	0–80	1.	26.00
18	1567	0–100	1.25	26.00
19	1569	0–150	2.5	26.00
20	1571	*0–300	5.	28.25
21	1573	0–15 0–30	.25 .5	28.25
22	1575	0–50 0–100	.5 1.	28.25
23	1576	0–75 0–150	1.25 2.5	28.25
24	1577	0–150 *0–300	2.5 5.	30.25
25	1579	0–75 0–150 *0–300	1.25 2.5 5.	32.25
26	12980	Leather Carrying Cases.....		$3.25

*Has external resistor for 300 volt range.

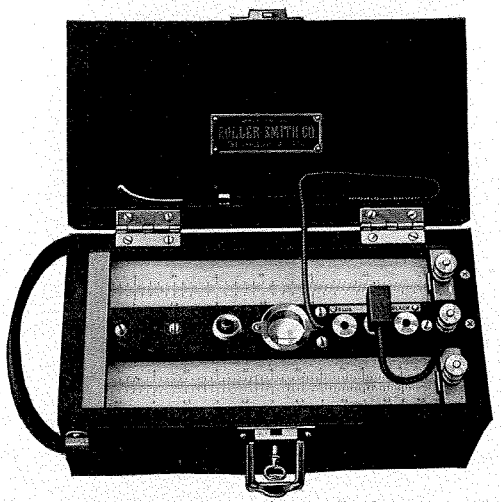
†Readable portion of scale is from 20% of scale to full scale.

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Type SOM Direct Reading Ohmmeter

SLIDE WIRE BRIDGE



Dimensions, 9½x5x5 Inches; Weight, 5 Pounds

Determining the resistance of relay coils, slot coils, various circuits and pieces of apparatus is as readily accomplished with this ohmmeter as the reading of the resistance of relay points and other contacts.

The many available ranges of resistance allow very close readings to be made even to the thousandth part of an ohm.

This instrument is, in general, a slide wire bridge having self-contained galvanometer of sensitive but rugged design, self-contained dry cells which are conveniently located for renewal, galvanometer key, stylus and self-contained resistances—in fact, the instrument is complete in itself.

The case is of hardwood, highly polished and provided with hinged top, latch and lock and leather handle.

There are three ranges, namely, 0-1, 0-10 and 0-100 (or 0-1000) ohms, each on a scale 15 inches long; each scale is a different color—blue, red and black being used.

An unknown resistance is measured by connecting it to points XX. The plug is inserted in one of the sockets marked "blue, red, black," and the stylus tapped along the wire that runs from end to end of the scale. At a certain point there will be no deflection of the galvanometer pointer. The resistance is then read off the scale, using figures of color corresponding to the socket. If the first test indicates that a closer reading could be obtained with another range, it is only necessary to change the plug to another socket and find point of no deflection as before.

ORDERING REFERENCE

Specify Plate Number R240, Reference Number and Description

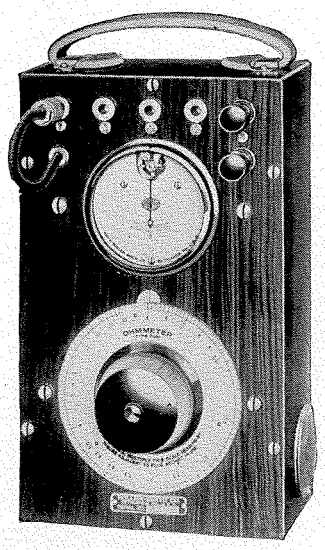
Description—Type SOM Ohmmeter

Ref. No.	Mfrs. No.	Range	Value per Scale Division	Price
1	1006	0– 1 Ohm	0– .1 ohm in .001 ohm divisions .1– .6 ohm in .002 ohm divisions .6– 1. ohm in .005 ohm divisions	$122.00
		0– 10 Ohms	0– 1 ohm in .01 ohm divisions 1– 6 ohms in .02 ohm divisions 6– 10 ohms in .05 ohm divisions	
		0– 100 Ohms	0– 10 ohms in .1 ohm divisions 10– 60 ohms in .2 ohm divisions 60– 100 ohms in .5 ohm divisions	
2	1030	0– 1 Ohm	0– .1 ohm in .001 ohm divisions 1– .6 ohm in .002 ohm divisions 6– 1. ohm in .005 ohm divisions	122.00
		0– 10 Ohms	0– 1 ohm in .01 ohm divisions 1– 6 ohms in .02 ohm divisions 6– 10 ohms in .05 ohm divisions	
		0–1000 Ohms	0–100 ohms in 1. ohm divisions 100–600 ohms in 2. ohm divisions 600–1000 ohms in 5. ohm divisions	

WESTERN RAILROAD SUPPLY COMPANY
CHICAGO NEW YORK

Type COM Portable Direct Reading Ohmmeter

Accuracy 1%



This instrument is a form of slide wire ohmmeter designed with particular reference to speed and simplicity in operation and low initial cost. Its design is such as to make it an ideal instrument for the rapid measurement of coils and resistance units on a quantity production basis. The instrument is entirely self-contained—there are no loose parts that may become lost.

Ohmmeter Operation

To measure the ohmic resistance of a circuit attach the free ends of the two wires that form the terminal of the unknown resistance to the two "X" binding posts on the ohmmeter. Insert the plug attached to the flexible cord near the top of the instrument into any one of the four sockets marked "1", "10", "100", "1000". Rotate the bakelite knob which is attached to the dial and at the same time depress the center button. If a balance on the galvanometer cannot be obtained with one complete revolution on the dial, the plug should be shifted to the next socket and a revolution of the dial made again if necessary. When the galvanometer needle balances at zero the value of the resistance under measurement can be read on the dial at the point opposite the register mark. The numerals on the dial read directly when the ratio plug is in socket marked "1". When the plug is in sockets of higher value, multiply the scale reading by the value of the socket used. Range over 4 scales, 0.5 to 50,000 ohms.

ORDERING REFERENCE

Specify Plate Number R241, Reference Number and Description

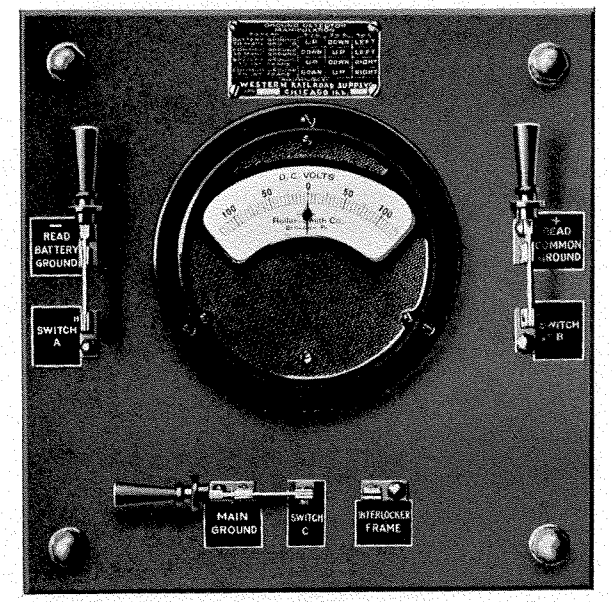
Ref. No.	Mfrs. No.	Description	List Price
1	3007	Type COM Ohmmeter, four ranges, 0.5-50, 5-500, 50-5000, 500-50,000 ohms	$70.00
2	3008	Adaptor (to be attached to "X" posts) for handling very small wires	2.50
3	3010	Leads for use with Type COM Ohmmeter	2.85

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Ground Detector

FOR DETECTING AND LOCATING GROUNDS AT INTERLOCKING PLANTS



Front View of Reference No. 2 Ground Detector

AN INTERLOCKING PLANT is an institution for safety—this safety is no greater than the insulation of its wiring. In presenting the Ground Detector we offer a complete means for detecting grounds promptly and the opportunity of locating and removing this ground before real trouble occurs.

A single ground on an electrical system will have no serious consequences as long as the remainder of the system is in perfect electrical condition. However, should a ground exist the first break-down in insulation or other fault occurring may have serious consequences, as control contacts may be shunted out by the ground path. Signal apparatus is designed on the closed circuit principle and for economy the hold clear current is kept small; hence only a small current need be carried by the ground to hold a signal or a lock or a relay, etc., energized.

The possibility of having two faults, on the system at the same time is always a constant danger, for if it is possible to have one fault, it is possible to have another, and, unless the first is removed, a dangerous condition may result.

Periodic Tests

Even with the best of maintenance it is impossible to prevent the occurrence of grounds. Hence it becomes necessary to remove such grounds as soon as they occur, and to do this it is necessary to know when the first ground appears.

This can only be ascertained by frequent and periodic tests and it is to facilitate these tests that a ground detector is necessary.

Equipment

The WRRSCo. ground detector equipment consists of a high resistance differential voltmeter and necessary switches for rapid and accurate manipulation. One side of the meter is connected through a switch to the main battery bus and the other side is connected also through a switch, to main common bus. The neutral or middle point of the meter is connected to a double throw switch by means of which the instrument can be connected to either the frame of the interlocking machine or to a ground plate. See circuit plans.

The resistance of the meter is made high, not less than 750 ohms per volt, in order that manipulation of the detector may not be dangerous in itself.

Manipulation

The switches are normally left open. To make a test, the double throw switch is thrown to "ground" and the switches to the bus bars closed one at a time. A ground is indicated by a deflection of the meter. The deflection is inversely proportional to the resistance of the ground plus the resistance of the meter. Should the meter indicate full battery voltage a "dead short" or zero resistance ground is indicated. The tests are then repeated with the double throw switch on the interlocker side.

This test should be made whenever a maintainer reports on and off duty and a record of the reading made.

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Ground Detector

REMOVAL OF GROUNDS

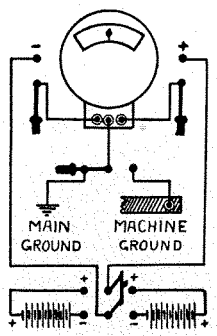


Figure Nº 2

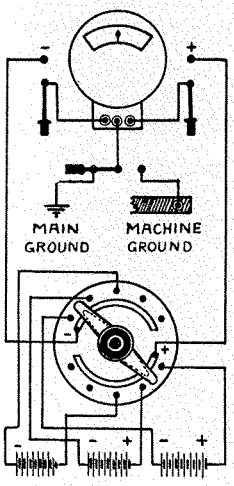


Figure Nº 3

Should the presence of a ground be indicated, the operator first notes which side of the battery it is on. A ground showing with meter connected to the positive battery bus is on the negative or common side and vice versa. Should a deflection be noted with both buses connected at the same time, the reading indicates only a lower resistance ground on one side than on the other; hence only one switch should be closed at a time.

Should the ground be on the common side, the operator disconnects the common on one side of his plant. If the ground disappears or is reduced in value, the ground is on that side of the station. However, to check, a reading of the positive or battery ground should be taken. If battery side shows increased ground it is a sign that the ground is on the common wire on the side disconnected, as positive battery is now feeding out on some control wire through an operated unit to a common ground. Knowing on which side of the station the ground lies, the common can be further sectionalized until the fault is isolated and found.

Battery or positive grounds are sometimes harder to detect than common grounds although they occur less frequently. The main obstacle to detecting battery grounds lies in the fact that many of the wires on the positive side are normally on open circuit through two or more contacts and hence are not connected in any way to the detector until the unit which they control is operated.

A ground on a positive control wire under certain conditions will show as a common ground when operated unit is on an open circuit.

For these and other reasons the location of grounds is sometimes a rather tedious operation and hence everything possible in the way of construction should be done to facilitate testing. No two batteries should use the same wire for common return. This precaution not only facilitates testing but actually reduces the chances of serious trouble as the effects of a ground are confined to one battery and the circuits fed from it.

Ground Detectors are built in two standard capacities—one for Low Voltage Plants and one for High Voltage Plants. The Low Voltage type has a Meter Scale of 20-0-20 Volts and a Meter Resistance of 15,000 ohms. The High Voltage type has a Meter Scale of 130-0-130 volts and a Meter Resistance of 100,000 ohms.

ORDERING REFERENCE

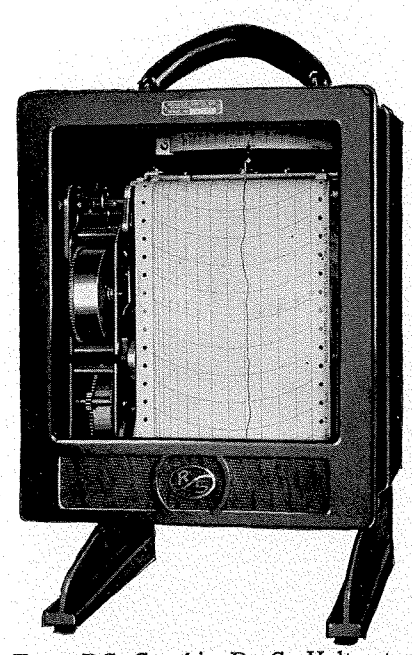
Specify Plate Number R260, Reference Number and Description

Ref. No.	Description
1	Ground Detector complete for two sets of battery of Low Voltage Plant, Meter scale 20-0-20 volts.
2	Ground Detector complete for two sets of battery of High Voltage Plant, Meter scale 130-0-130 volts.
3	Ground Detector complete for three or four sets of battery of Low Voltage Plant, Meter scale 20-0-20 volts.
4	Ground Detector complete for up to eight sets of battery of High Voltage Plant, Meter scale 130-0-130 volts.

WESTERN RAILROAD SUPPLY COMPANY

CHICAGO NEW YORK

Graphic Instruments



Type DG Graphic D. C. Voltmeter Portable Model

Type DG for DIRECT CURRENT have a high torque d'Arsonval mechanism

Type AG for ALTERNATING CURRENT have a dynamometer mechanism

Both types are similar in appearance.

Scale length—4½".

A strip type chart 5" wide and 75 ft. long is supplied.

Chart is clock wound for 8 days without rewinding.

Each instrument is accompanied by a liberal supply of ink, an extra pen point, a pen cleaner and a pen filler.

A full set of instructions covering operation of the instrument is included.

Each instrument has five speeds of ¾", 1½", 3", 6" and 12" per hour. On special order two sets of speeds can be furnished at these values, namely per hour and per minute at an additional charge.

At no extra charge Telechron synchronous motor drive can be supplied in place of clock drive.

Type DG instruments are for direct current and are supplied as separate shunt AMMETERS, MILLIVOLTMETERS and VOLTMETERS.

Type AG instruments are for alternating current and are supplied as AMMETERS with 5 ampere capacity for use with current transformers, and VOLTMETERS up to 750 volts. These instruments are also supplied as single phase and polyphase WATTMETERS, POWER FACTOR METERS and OPERATION RECORDERS.

The types DG and AG instruments are available in Switchboard mounting, Wall mounting and Portable.

We are prepared to furnish other types of graphic instruments of special nature and invite correspondence.

ALL PRICES ON GRAPHICS.....ON APPLICATION

In making inquiries please refer to catalog Section "R" Plate No. R266

WESTERN RAILROAD SUPPLY COMPANY

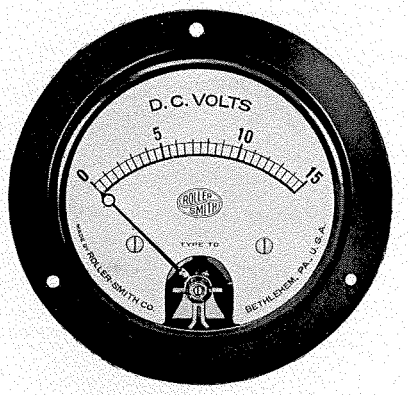
CHICAGO NEW YORK

Switchboard Type Meters

FOR DIRECT CURRENT AND ALTERNATING CURRENT

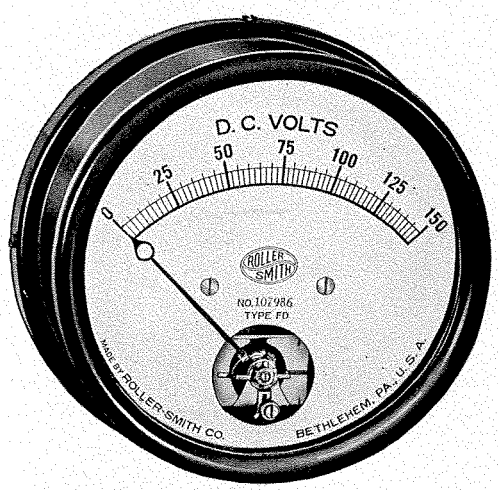
We list as follows some of the various Switchboard type instruments available.

COMPLETE DATA AND PRICES SENT ON REQUEST. In making inquiries please refer to Catalog Section "R" Plate R269.



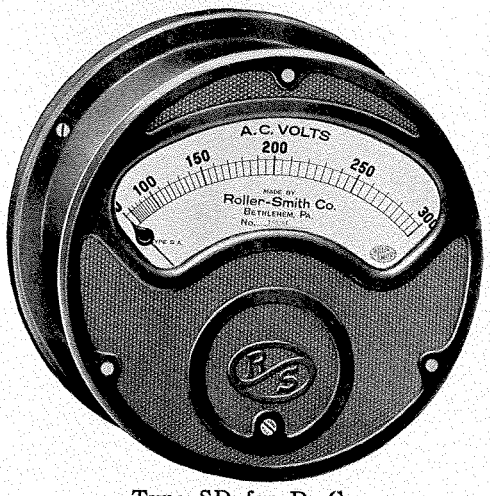
Flush Model
Type TD for D. C.
Type TA for A. C.

These instruments measure 3½" overall diameter.



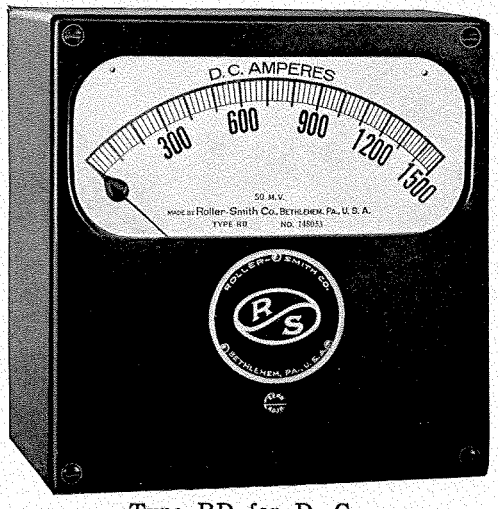
Type FD for D. C.
Type FA for A. C.

These instruments measure 4" overall diameter.



Type SD for D. C.
Type SA for A. C.

These instruments measure 7½" overall diameter.



Type RD for D. C.
Type RA for A. C.

These instruments measure 6" high, 5⅝" wide and 3¾" deep.

Other types of instrument such as Wattmeters, Frequency Meters, Power Factor Meters also available.

W
RRS

INSERT IN BINDER FOLLOWING SECTION R

Supplement 1 for Catalog Section R

WESTERN RAILROAD SUPPLY COMPANY

MANUFACTURERS

General Offices and Factory
2360 South Ashland Avenue
Chicago, Ill.

•

District Offices in

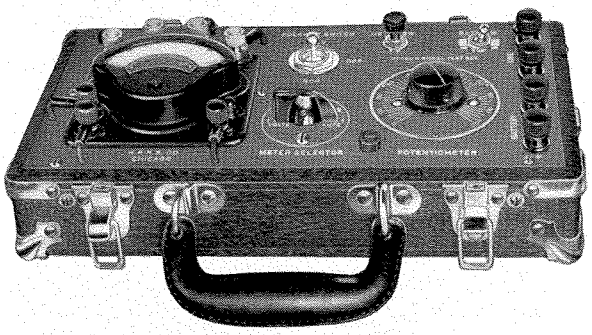
New York, N. Y.
Denver, Colo.
St. Louis, Mo.
Cleveland, Ohio
Houston, Texas

Printed in U.S.A.

1941

WESTERN RAILROAD SUPPLY COMPANY

Type "K" Signal Test Set



Size 6½" x 12½" x 4½" Leatherette Case

Weight 5½ lbs. No Leads Furnished

With Slip-Hinge Cover Removed

The Type "K" Signal Test Set combines in one compact assembly the necessary apparatus for conveniently making all ordinary field tests on D.C. railway signal devices. It contains a 100 ohm potentiometer, of 150 watts capacity, and the necessary switches for polarity reversal, opening and closing of circuits, changes from voltage to current readings and meter range selection.

The set was designed with the thought in mind that voltammeters are already possessed by most signalmen and that a test set in which their instruments could be installed would be desirable. The set illustrated is equipped uith a Weston Model 280 Voltammeter with three current and three voltage ranges. Any similar instrument such as Jewell Pattern 41, Roller Smith or General Electric can be used. **When ordering it is necessary to specify the type or model of instrument that is to be installed in the test set, the number of voltage and current scales of the instrument and whether it has a range selector switch.**

Local battery is necessary as no self-contained battery is provided. It is siuggested that two 6 volt lantern batteries may be used for most tests required where local battery is not available.

Pick-up and release values of relays and slot coils are easily and quickly made with suitable meter mounted in the Type "K" Test Set. Connections need be made only to battery and to the device under test. No external resistances or other inconvenient accessories are necessary.

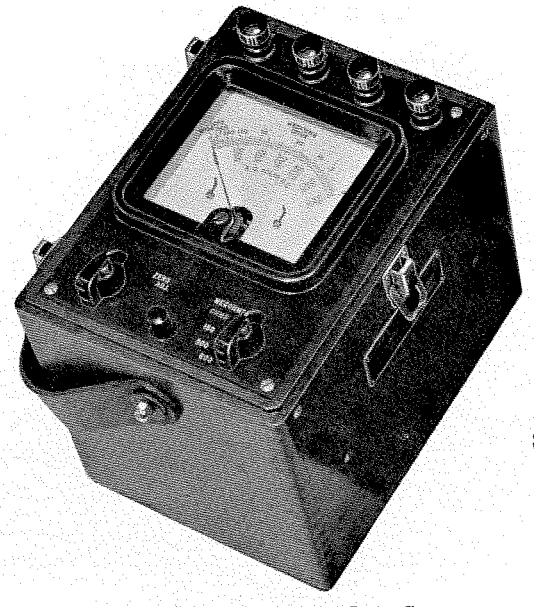
ORDERING REFERENCE

Specify Plate Number R50, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type K Test Set without meter (Specify type of instrument with which set is to be used, the number of voltage and current scales of the instrument and whether it has a range selector switch)	
2	Type K Test Set complete with Weston Model 280 Voltammeter with 6 ranges. (Specify 3 voltage and 3 current Ranges desired)	

WESTERN RAILROAD SUPPLY COMPANY

Model 201 Vibro-Test



With Slip-Hinge Cover Removed

Size 9″ x 11″ x 6″ Oak Case
Weight 10 lbs. 5 Foot Leads

The Model 201 Vibro-Test is intended primarily for testing insulation values of wires and cables and resistance of signal apparatus. In addition it may be used to measure A.C. and D.C. voltages usually encountered in signaling circuits. The operating principle differs from the commonly known instruments used for testing insulation resistance. The power supply for the megohm scale consists of two No. 6 dry cells housed in the case with a vibrator such as is used in automobile radio power supplies. The vibrator is of the self-rectifying, synchronous type and is used to produce approximately 500 volts, direct current, for the 0-200 megohm scale. The separate, direct reading 0-2000 ohm scale for measuring resistance values of coils, etc., is operated directly from the 3 volt dry battery.

In addition to the 200 megohm and 2000 ohm resistance scales there are also provided three or more scales for measuring either A.C. or D.C. voltages. These voltage scales have a resistance of 1000 ohms per volt.

The Vibro-Test is most convenient to use. The power supply system insures consistent voltage when testing circuits of relatively high capacity. After selecting the desired scale and pressing the push button part way, the instrument is standardized by means of the left hand knob, and then the button is pressed down flush with the panel to take the resistance reading. Approximately 15 seconds per microfarad of capactiy is required to charge the circuit being tested. The push button short-circuits and discharges the line when button is released upon completion of the test.

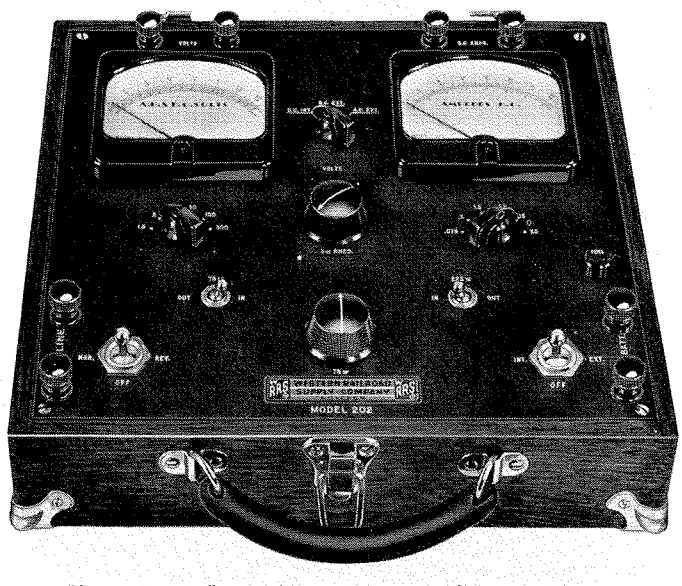
The standard Model 201 Vibro-Test has ranges of 0-200 megohms, 0-2000 ohms and 0-150-300 and 600 volts A.C. or D.C. Certain other range combinations can be made up by special arrangement.

ORDERING REFERENCE
Specify Plate Number R54, Reference Number and Description

Ref. No.	Description	Piece No.
1	Model 201 Vibro-Test	

WESTERN RAILROAD SUPPLY COMPANY

Model 202 Signal Test Set



Size 13″ x 13″ x 5¾″ **Weight 11 lbs.**
Oak Case **No Leads Furnished**

With Slip-Hinge Cover Removed

Characteristics of all D.C. signal apparatus can readily be ascertained with the Model 202 Signal Test Set. Field or laboratory tests to determine pick-up, release, torque, contact resistance, D.C. or A.C. voltages and D.C. currents can be easily and accurately made in a minimum of time. Simultaneous voltage and current readings on D.C. signal apparatus are made with but two leads connected to the device under test. Polarity changes and voltage variations are accomplished by switches, fixed resistances, potentiometer and rheostat conveniently located on the panel. Self-contained battery is available for use where local battery is not accessible.

The high grade measuring instruments may be used independently of the other apparatus of the test set when it is desired to measure A.C. or D.C. voltages or D.C. currents. Voltage readings, either A.C. or D.C. may be made on scale ranges of 0-1.5-3-15-30-150 and 300 volts. Current readings, D.C. only, on scale ranges of 0-.075-.3-1.5-7.5-15 and 30 amperes.

The resistance assembly totals 380 ohms. It consists of 75 ohms and 225 ohms fixed resistance, which may be individually shunted out or connected in series with the 75 ohm potentiometer and a 5 ohm, high capacity, rheostat.

ORDERING REFERENCE
Specify Plate Number R58, Reference Number and Description

Ref. No.	Description	Piece No.
1	Model 202 Signal Test Set	

WESTERN RAILROAD SUPPLY COMPANY

Model 203 Roto-Ranger

VOLT-OHM-AMMETER

Size 7" x 8½" x 5" **Weight 5 lbs.**
Leatherette Case **5 Foot Leads**
With Slip-Hinge Cover Removed

The Roto-Ranger combines in one instrument a voltmeter, ohmmeter and ammeter with a separate scale for each range. When selecting the particular range to be used, by means of the range selector switch, the corresponding scale automatically comes into position, enabling accurate readings to be made with ease—no calculations or multiplying factors being necessary.

The direct current voltage readings are made on scale ranges of 0-3, 0-30 and 0-150 volts. Alternating current voltage readings are made on scale ranges of 0-7.5, 0-30 and 0-150 volts. Voltmeter ranges have a resistance of 1000 ohms per volt. Direct current ampere readings are made on scale ranges of 0-.150 and 1.5, 0-300 and 3, 0-6 and 0-15 amperes. On the two low current scales the reading is first noted on the higher range, i.e., 0-1.5 or 0-3. amperes and if found to be less than 10% of the full scale the push button is pressed to quickly transfer to the lower ranges of 0-.150 or 0-.300 amperes. The probability of burning out the shunts on the lowest current scale is, therefore, quite remote. The resistance scales are 0-100 and 0-1000 ohms, direct reading. A self-contained, 1.5 volt, dry cell supplies the energy for the ohmmeter scales.

No other scale combinations are available but external multipliers can be supplied for higher A.C. or D.C. voltage readings.

This instrument is extremely convenient and simple to use, is compact and light in weight.

ORDERING REFERENCE
Specify Plate Number R62, Reference Number and Description

Ref. No.	Description	Piece No.
1	Model 203 Roto-Ranger	

WESTERN RAILROAD SUPPLY COMPANY

Model 251 Vibroground

FOR TESTING RESISTANCE TO EARTH OF GROUND CONNECTIONS

Size 6" x 9" x 8½"
Metal Case

Weight 17½ lbs.
No Leads Furnished

With Snap-on Cover Removed

In the design and perfecting of the Model 251 Vibroground, it has been our desire to offer a more accurate, simple and reliable instrument for the measurement of ground resistance.

OUTSTANDING FEATURES

A.C. Potential used for tests. Eliminates interference with electrolytic or D.C. stray currents.

Potential approximately 175 volts on open circuit—plenty for dry ground conditions.

Power supply—two No. 6 dry cells on low drain circuit (battery shelf life).

Test method—a compensated or balancing method with accuracy unaffected by condition of batteries, resistance of auxiliary grounds or presence of stray voltages. Null method of measurement is used similar to a wheatstone bridge.

Direct reading on open scale and easy to balance.

No reverse readings. No computations with attendant errors. No polarization errors.

Measures absolute resistance in ohms independent of all auxiliary ground resistances.

Mounted in attractive durable waterproof metal carrying case, brown wrinkle finish.

Standard Vibroground has ranges 0-12.5 and 0-125 ohms. Ranges of 0-1.25 or 0-1250 ohms can be furnished if specified.

Leather or canvas carrying cases, which completely house the instrument can be furnished.

Ordering reference for the Vibroground listed below includes batteries.

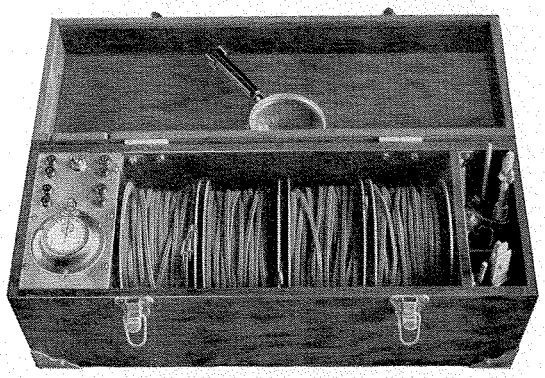
ORDERING REFERENCE

Specify Plate Number R68, Reference Number and Description

Ref. No.	Description	Piece No.
1	Model 251 Standard Vibroground Complete	251
2	Fabric Carrying Case for Model 251 Vibroground	201 FCC
3	Leather Carrying Case for Model 251 Vibroground	204 LCC

Type 4504 Speed-Check

Patent Applied for



Size: 22¼" Long; 7 7/16" Wide; 9 3/16" Deep. Weight: 32 Pounds

Type 4504 Speed-Check is a device for determining the speed of trains by measuring the time consumed in passing over a measured distance.

The device embodies a high-grade stop watch with a three-second dial reading to hundredths of a second, and electrical means for starting it and stopping it. The elapsed time is referred to a table to find the speed of the train.

Rail contactors are furnished which serve to close circuits when the first wheel of a train passes over them and these contactors, when connected to the instrument, close circuits which start and stop the watch.

For convenience, suitable and sufficient insulated wire is provided on reels in the instrument case, a separate reel for each piece of duplex wire, with means for rewinding the wire after use. The ends of the wires are fitted with durable pin terminals. Each wire is 172 feet long and is marked at a point 132 feet from the end that is outside on the reel so that it can be used to measure distance. This 172-foot length permits the "Speed-Check" instrument to be set back as much as 40 feet from the track.

In order to provide means for speed-checking two trains with one setup, four contactors and four pieces of duplex wire are provided, two for each track, two having red pin terminals and two having black pin terminals. A convenient tumbler switch provides for quickly changing connections from one set of contactors to the other set.

Extra space is provided in the case for storing the track contactors when not in use.

The speed table is calculated for a distance of 264 feet (1/20th mile).

ORDERING REFERENCE
Specify Plate Number R75, Reference Number and Description

Ref. No.	Description	Piece No.
1	Type 4504 Speed-Check	4504
2	Rail Contactor Only	4504-40

GEIS PRINTING CO., CHICAGO, 5M-41

Section

T

Flashing Light-Rotating Disc Highway Crossing Signal

WESTERN RAILROAD SUPPLY COMPANY

MANUFACTURERS

General Offices and Factory

2360 South Ashland Avenue

Chicago, Illinois

●

District Offices in

New York, N. Y.
Denver, Colo.
St. Louis, Mo.
Cleveland, Ohio
Houston, Tex.

Printed in U.S.A.

1937

Model 6 Flashing Light-Rotating Disc Highway Crossing Signal

GENERAL DESCRIPTION

The Flashing Light-Rotating Disc Highway Crossing Signal has been adopted as standard by the U. S. Bureau of Public Roads and by the Highway Commissions of many states. It incorporates the principles of the flashing light signal and the Federal Octagon STOP Sign. The signal shows the restrictive STOP indication only when there is a train approaching the crossing and until the train has cleared the crossing. At other times the STOP disc is parallel to the highway and invisible to highway traffic. The signal says STOP only when it means STOP. The banner is held in a locked position in both the clear and STOP indication and can not be turned by force applied from without the mechanism case.

The rotating banner operates on the electrically energized or closed circuit principle, i.e., it is held in its normal clear position by electrical energy. In case of power failure the banner would automatically rotate to the restrictive STOP position by gravity. In other words, in case of power failure the Rotating Disc Signal will show a STOP indication whereas the standard flashing light signal will show a clear indication, or dark signal.

The Rotating Disc Signal can be furnished in two styles. It can be furnished so that the mechanism and banner can be mounted on a pipe post or mast by a gooseneck bracket; or it can be furnished so that it mounts on a pipe pedestal and is furnished with a channel iron framework which protects the banner with an octagon-shaped enclosure and supports a short pipe mast for mounting flashing lights, signs, bell, floodlight, etc.

The signal assemblies can be furnished with either Type 700 or Type 800 Mechanisms. These two mechanisms have the same operating characteristics but differ in construction. The differences in these two mechanisms can be seen in the accompanying photographs.

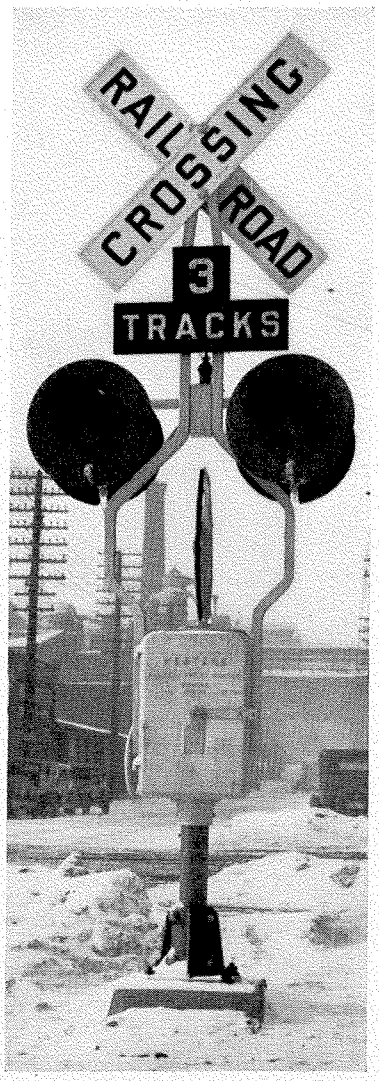
The Flashing Light Assemblies regularly furnished with these signals are the Type 880 shown in Western Railroad Supply Company Catalog Section D. They provide indication in both directions along the highway. (Each Flashing Light assembly consists of four flashing lights mounted on a junction box-cross arm.) The flashing lights are equipped with mangin mirror type reflectors and are furnished with single contact bayonet base, S-11 bulb, lamps of any voltage or wattage desired. Medium screw base lamps or double contact bayonet base lamps may be furnished if specified.

Any of the signs shown in W. R. R. S. S. Co. Catalog Section H may be furnished with the signal assemblies shown in this Catalog.

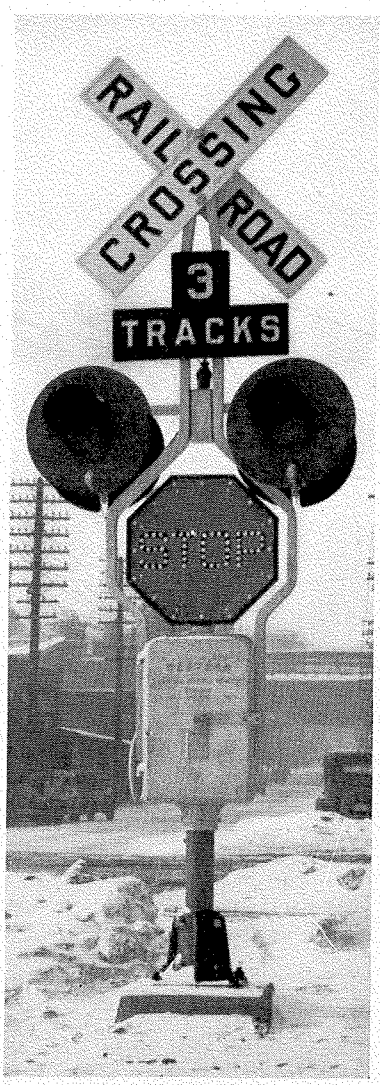
The Bell furnished will be Type 222, 12″ gong, if for operation from D. C. source, or Type 1203, 12″ gong, if for operation from A. C. source. Bells are shown in Catalog Section B.

Any of the Signal Assemblies shown in this Catalog Section may be varied to meet particular requirements. We will gladly offer engineering information and estimates on highway crossing protection installations. Western Railroad Supply Company is the largest manufacturers of highway crossing protection apparatus.

Model 6 Flashing Light-Rotating Disc Highway Crossing Signal



In clear position

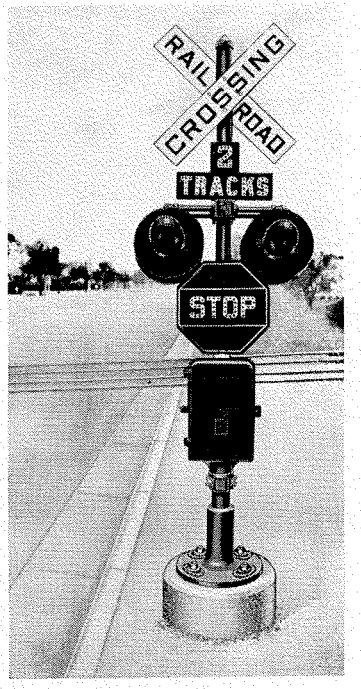


In stop position

CHANNEL IRON FRAMEWORK TYPE

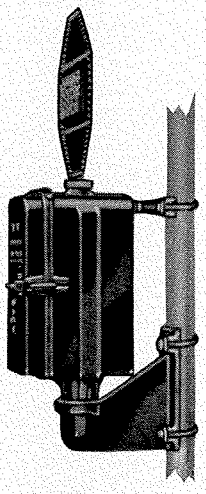
Model 6 Flashing Light-Rotating Disc Highway Crossing Signal

In clear position



In stop position

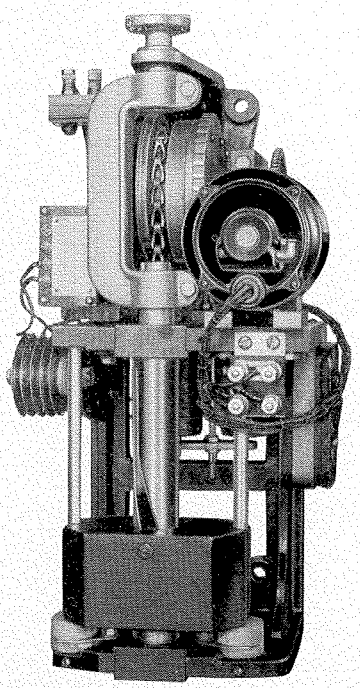
GOOSENECK BRACKET TYPE



From photo at left it can be seen that the mechanism and banner of the rotating disc signal can be added to existing highway crossing signals. By using the rotating disc signal mechanism, highway crossing signals can be modernized without completely scrapping signals now installed. For ordering reference for this assembly of mechanism, banner, and mounting brackets see Plates T20 and T60.

Model 6 Rotating Disc Highway Crossing Signal

TYPE 700 MECHANISM



The photograph above shows the operating mechanism of the Type 700 Model 6 Rotating Disc Signal. The view shows the mechanism in the STOP position. In this position the banner is locked and cannot be turned by force applied from outside the mechanism case.

When returning to the clear position the weight is raised and the spiral shaft is turned. This operation rotates the banner to its clear position parallel to the highway. The banner is mechanically locked in this position also.

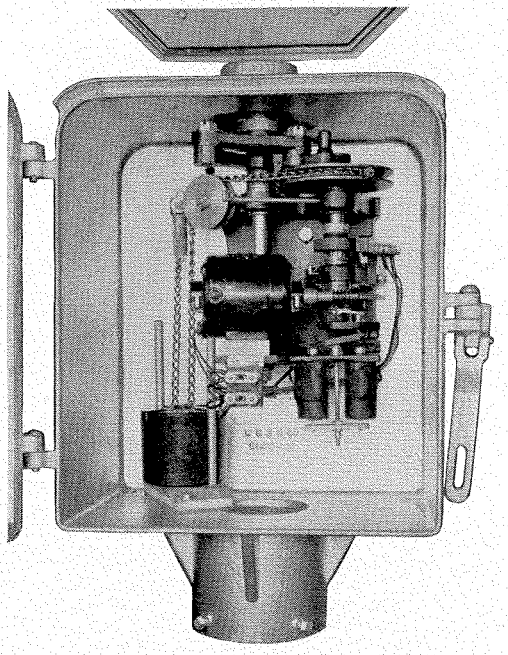
As a train enters the circuit the electric energy which holds the weight in the upper position releases the weight. The weight drops to the bottom of the case immediately, turning the spiral shaft and the STOP banner. In case of power failure also, the weight will drop and turn the STOP disc to the STOP position.

These mechanisms are furnished for either 10 volt D.C. or 110 volt A.C. operation, as specified. The illustration shows the A.C. operating mechanism.

For signal assemblies using the Type 700 Mechanism see Plates T10 through T25. For replacement parts for this mechanism see Plate T30.

Model 6 Rotating Disc Highway Crossing Signal

TYPE 800 MECHANISM



The photograph above shows the type 800 Mechanism for operating the rotating banner signal. The view shows the mechanism in the STOP position. In this position the banner is locked and cannot be turned by force applied from without the mechanism case.

When revolving to the clear position, the weight is drawn by the motor upwards from the bottom of the case and is held suspended in air while the signal is in the clear position. In this position also the banner is locked and cannot be turned by outside force.

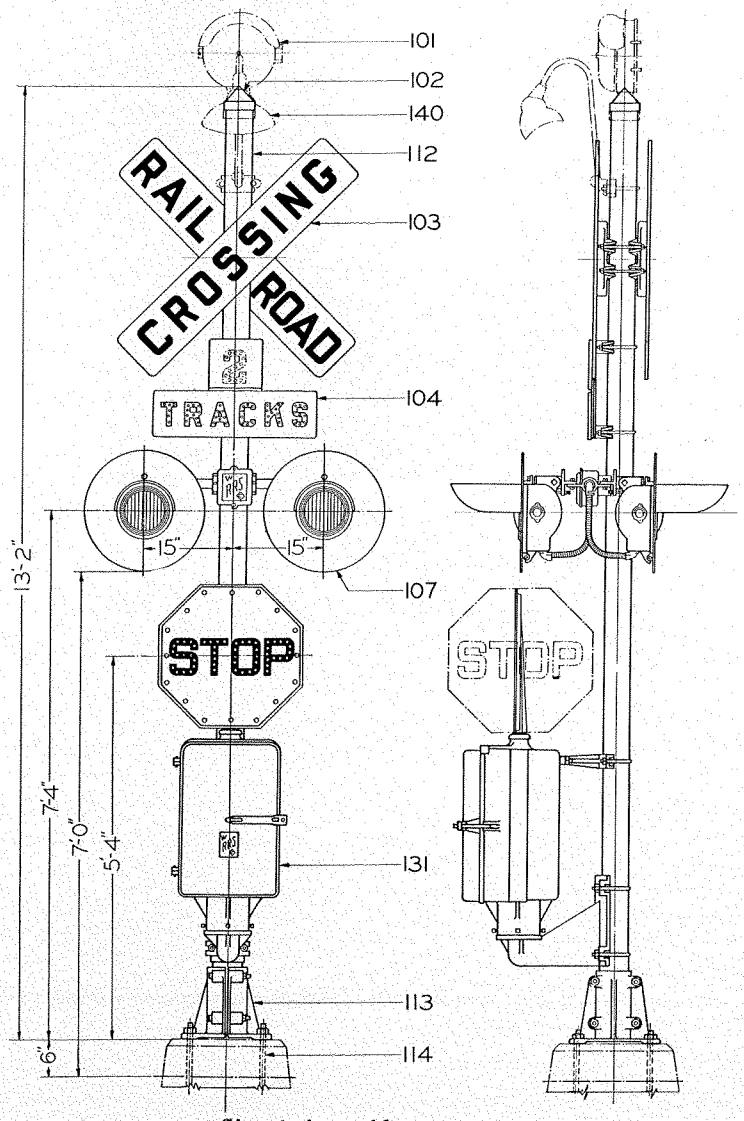
When a train enters the circuit the weight drops to the bottom of the case and immediately turns the banner to the most restrictive, STOP, position. The motor is used only in clearing the signal. In case of power failure the weight will also drop and cause the signal to display the STOP indication. This mechanism is furnished for either 10 volt D. C. or 110 volt A. C. operation, as specified.

For signal assemblies using the Type 800 Mechanism see Plates T50 through T65. For replacement parts for Type 800 Mechanism see Plate T70.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Rotating Disc Highway Crossing Signal

WITH TYPE 700 MECHANISM



Signal Assembly 0700-411

NOTE:

1—Signals will be furnished with 4" I. D. pipe unless otherwise specified.
2—Dimensions shown can be varied to meet particular requirements.
3—For ordering reference see following page.
4—Longer masts and additional flashing light units can be furnished.
5—For detail parts see Plate T100.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Rotating Disc Highway Crossing Signals

WITH TYPE 700 MECHANISM

Signal Assembly 0700-411

Flashing Lights furnished with this signal assembly will be Type 880 for Two-Way Indication (four lamp units mounted on Type 865 Lamp Arm). Any other type of lamp assembly can be furnished if specified. (See Catalog Section D.)

Bell furnished with this signal assembly will be Type 222 if source of operating power is D.C.; Type 1203 Bell will be furnished if source is A.C. (See Catalog Section B.)

Banner furnished with this signal assembly will be Bureau of Public Roads Standard. (Yellow background, black letters and border, crystal reflector lenses in border, red lenses in word STOP.) (See Catalog Section H.) Any other type of disc with various wordings can be furnished.

THE FOLLOWING INFORMATION MUST BE SPECIFIED

1—Operating voltage, if D.C.; voltage and frequency, if A.C.

2—Voltage and wattage of lamps in flashing lights and floodlight.

3—Numeral required in Multiple Track Sign.

ORDERING REFERENCE

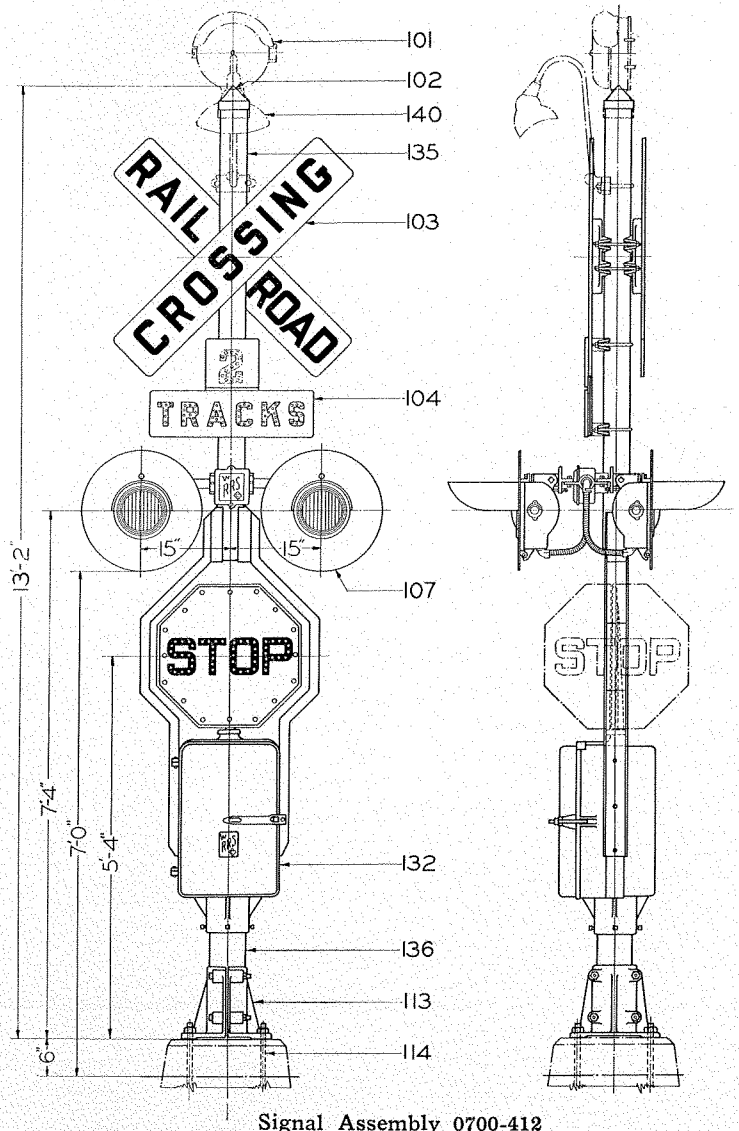
Specify Plate Number T10, Reference Number and Description
Description: Model 6 Type 700 Rotating Disc Signal 0700-411

Ref. No.	With or Without Bell	With or Without Floodlight	Type of Crossing Sign	Type of Track Sign
1	With	With	Cast Iron	Reflector
2	With	With	Cast Iron	Cast Iron
3	With	Without	Reflector	Reflector
4	With	Without	Reflector	Cast Iron
5	With	Without	Cast Iron	Reflector
6	With	Without	Cast Iron	Cast Iron
7	Without	With	Cast Iron	Reflector
8	Without	With	Cast Iron	Cast Iron
9	Without	Without	Reflector	Reflector
10	Without	Without	Reflector	Cast Iron
11	Without	Without	Cast Iron	Reflector
12	Without	Without	Cast Iron	Cast Iron

For detail parts of this signal assembly see Plate T100

Model 6 Rotating Disc Highway Crossing Signal

WITH TYPE 700 MECHANISM



Signal Assembly 0700-412

NOTE:

1—Signals will be furnished with 5″ I. D. pipe at base and with 4″ I. D. pipe at top.
2—Dimensions shown can be varied to meet particular requirements.
3—For ordering reference see following page.
4—Longer top pipe mast and additional flashing lights can be furnished.
5—For detail parts see Plate T100.

Model 6 Rotating Disc Highway Crossing Signals

WITH TYPE 700 MECHANISM

Signal Assembly 0700-412

Flashing Lights furnished with this signal assembly will be Type 880 for Two-Way Indication (four lamp units mounted on Type 865 Lamp Arm). Any other type of lamp assembly can be furnished if specified. (See Catalog Section D.)

Bell furnished with this signal assembly will be Type 222 if source of operating power is D.C.; Type 1203 Bell will be furnished if source is A.C. (See Catalog Section B.)

Banner furnished with this signal assembly will be Bureau of Public Roads Standard. (Yellow background, black letters and border, crystal reflector lenses in border, red lenses in word STOP.) (See Catalog Section H.) Any other type of disc with various wordings can be furnished.

THE FOLLOWING INFORMATION MUST BE SPECIFIED

1—Operating voltage, if D.C.; operating voltage and frequency, if A.C.

2—Voltage and wattage of lamps in flashing lights and floodlight.

3—Numeral required in Multiple Track Sign.

ORDERING REFERENCE

Specify Plate Number T15, Reference Number and Description
Description: Model 6 Type 700 Rotating Disc Signal 0700-412

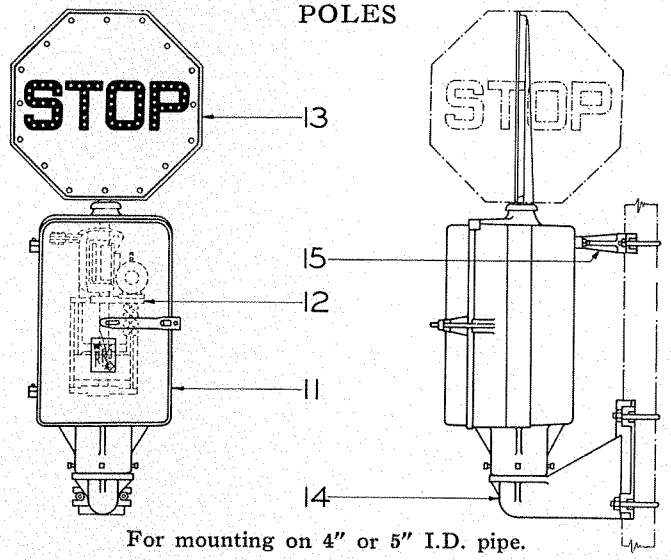
Ref. No.	With or Without Bell	With or Without Floodlight	Type of Crossing Sign	Type of Track Sign
1	With	With	Cast Iron	Reflector
2	With	With	Cast Iron	Cast Iron
3	With	Without	Reflector	Reflector
4	With	Without	Reflector	Cast Iron
5	With	Without	Cast Iron	Reflector
6	With	Without	Cast Iron	Cast Iron
7	Without	With	Cast Iron	Reflector
8	Without	With	Cast Iron	Cast Iron
9	Without	Without	Reflector	Reflector
10	Without	Without	Reflector	Cast Iron
11	Without	Without	Cast Iron	Reflector
12	Without	Without	Cast Iron	Cast Iron

For detail parts of this signal assembly see Plate T100.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Type 700 Assembly of Mechanism, Banner and Case

WITH GOOSENECK BRACKET FOR MOUNTING ON SIGNAL POLES



For mounting on 4″ or 5″ I.D. pipe.

ORDERING REFERENCE

Specify Plate Number T20, Reference Number and Description

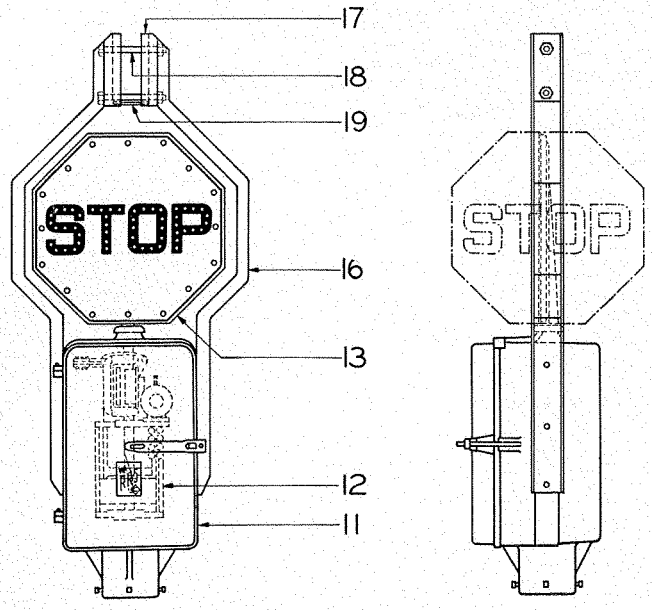
Ref. No.	Description	Piece No.
1	Type 700 Mechanism, Banner and Case Assembly complete with brackets for mounting on 4″ I.D. pipe for d.c. operation (Specify voltage)	0700–451
2	Type 700 Mechanism, Banner and Case Assembly complete with brackets for mounting on 4″ I.D. pipe for a.c. operation (Specify voltage and frequency)	0700–452
3	Type 700 Mechanism, Banner and Case Assembly complete with brackets for mounting on 5″ I.D. pipe for d.c. operation (Specify voltage)	0700–453
4	Type 700 Mechanism, Banner and Case Assembly complete with brackets for mounting on 5″ I.D. pipe for a.c. operation (Specify voltage and frequency)	0700–454
	Detail Parts	
11	Mechanism case with door (Socket is for 5″ I.D. pipe or 5½″ O.D. bracket)	0700–237
12	Mechanism complete for d.c. operation (Specify voltage)	0700–581
12a	Mechanism complete for a.c. operation (Specify voltage and frequency)	0700–582
13	Banner (Bureau of Public Roads Standard) complete with mounting fork	0700–201
13a	Double-faced assembly of banners and mounting fork (two banners mounted back to back)	0700–202
13b	Mounting fork only, for either Ref. 13 or 13a	0700–35
14	Gooseneck bracket complete with U-bolts for mounting on 4″ I.D. pipe	0700–200
14a	Gooseneck bracket complete with U-bolts for mounting on 5″ I.D. pipe	0700–200A
15	Brace bracket complete with U-bolts for mounting on 4″ I.D. pipe	0700–277
15a	Brace bracket complete with U-bolts for mounting on 5″ I.D. pipe	0700–277A

For replacement parts for mechanism see Plate T30.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Type 700 Assembly of Mechanism, Banner and Case

WITH CHANNEL IRON FRAMEWORK FOR PEDESTAL MOUNTING



Pipe mast clamps at top are for 4″ I.D. pipe.
Socket at bottom is for mounting on 5″ I.D. pipe.

ORDERING REFERENCE

Specify Plate Number T25, Reference Number and Description

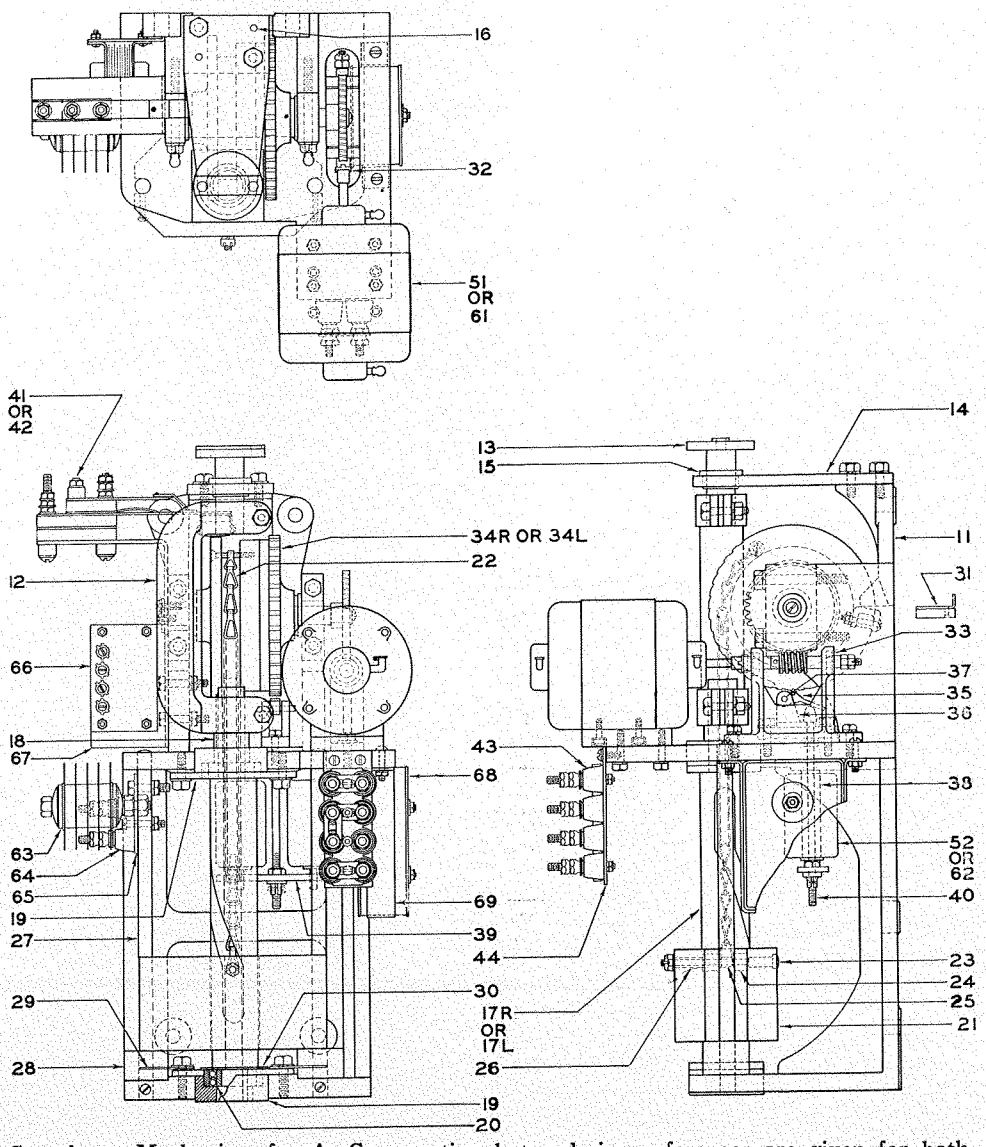
Ref. No.	Description	Piece No.
1	Type 700 Mechanism, Banner and Case Assembly complete with channel iron framework for d.c. operation (Specify voltage)	0700–461
2	Type 700 Mechanism, Banner and Case Assembly complete with channel iron framework for a.c. operation (Specify voltage and frequency)	0700–462
	Detail Parts	
11	Mechanism case with door (Socket is for 5″ I.D. pipe)	0700–238
12	Mechanism for d.c. operation (Specify voltage)	0700–581
12a	Mechanism for a.c. operation (Specify voltage and frequency)	0700–582
13	Banner (Bureau of Public Roads Standard) complete with mounting fork	0700–201
13a	Double-faced assembly of banners and mounting fork (two banners mounted back to back)	0700–202
13b	Mounting fork only, for either Ref. 13 or 13a	0700–35
16	Channel iron section for one side only (without drilling)	0700–143
17	Pipe mast clamp	0700–144
18	Through bolt with nut and washer	
19	Pipe cover plate	0700–502

For replacement parts for mechanism see Plate T30.

WESTERN RAILROAD SUPPLY COMPANY

Replacement Parts for Type 700 Mechanism

For Type 700 Mechanism complete see Plate T20 or T25



Cut shows Mechanism for A. C. operation but ordering references are given for both A. C. and D. C. mechanisms.

NOTE:

1—For ordering reference for mechanism complete see Plate T20 or T25.

2—For breakdown of Items 36, 46R, 46L, 66, 68, and 97 see second succeeding page.

WESTERN RAILROAD SUPPLY COMPANY

Replacement Parts for Type 700 Mechanism

For Type 700 Mechanism Complete See Plate T20 or T25

ORDERING REFERENCE

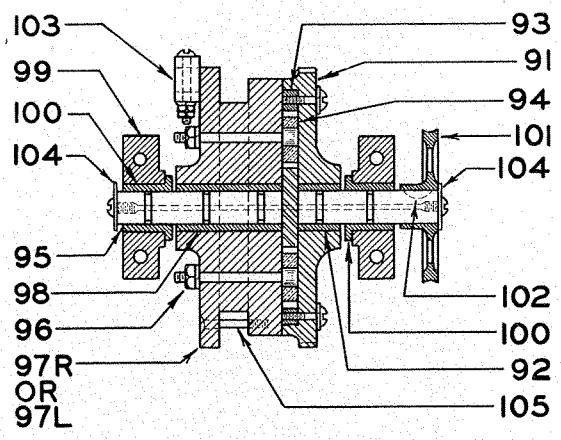
Specify Plate Number T30, Reference Number and Description

Ref. No.	Description	Piece No.
11	Mechanism frame	0700–13
12	Banner shaft bracket with clamp screws	0700–226
13	Stop disc stud	0700–59
14	Banner shaft support with bushing	0700–233
15	Bushing for banner shaft support	0700–64
16	Dowel pin	0700–81
17R	Spiral shaft for right hand operation	0700–10
17L	Spiral shaft for left hand operation	0700–511
18	Spacer bushing for spiral shaft	0700–29
19	Spiral shaft bearing block	0700–4
20	Spiral shaft ball bearing	0700–538
21	Weight	0700–6
22	Weight chain	0700–79
23	Weight bolt with slotted nut and cotter pin	0700–288
24	Weight roller	0700–68
25	Chain spacer bushing	0700–71
26	Weight bolt bushing	0700–69
27	Weight guide rod	0700–54
28	Weight bumper	0700–56
29	Hold down plate for bumper	0700–65
30	Ball bearing dust washer	0700–60
31	Sheave bumper (for left hand operation signals only)	0700–539
32	Coupling	0700–48
33	Worm stand assembly complete (Includes References 81 to 87 inclusive)	0700–542
34R	Planetary gear and bearing assembly for right hand operation signal (Includes References 91 to 105 inclusive except Ref. 97L)	0700–50R
34L	Planetary gear and bearing assembly for left hand operation signal (Includes References 91 to 105 inclusive except Ref. 59, 64, 65, and 97R)	0700–50L
35	Latch	0700–37
36	Latch bracket	0700–20
37	Latch shaft with cotter pins	0700–281
38	Hold clear coil core complete with cap screw	0700–218
39	Armature complete with adjusting nuts	0700–239
40	Lifting rod complete with cap	0700–285
41	Double throw cam operated cutout switch assembly (Includes References 111 to 126 inclusive except Ref. 113)	0700–286
42	Single throw cam operated cutout switch assembly (Includes References 111 to 127 inclusive except Ref. 119)	0700–287
43	8-post terminal block	2506–14B
44	Terminal support plate	0700–532
51	D. C. Motor with mounting base (Specify voltage)	0700–211
52	Hold clear coils for D.C. Signal (Includes pair) (Specify voltage)	0700–212
61	A. C. Motor with mounting base (Specify voltage and frequency)	0700–213
62	Hold clear coils for A.C. Signal (Includes pair) (Specify voltage and frequency)	0700–214
63	Rectifier element	0700–215
64	2-post terminal block	2506–11B
65	Mounting plate for rectifier and 2-post terminal block	0700–280
66	Transformer for rectifier unit (Specify voltage and frequency)	0700–216
67	Mounting bracket for 60 cycle transformer	0700–278
67a	Mounting bracket for 25 cycle transformer	0700–279
68	Condenser for A.C. Motor (Specify voltage and frequency of power supply)	0700–210
69	Mounting bracket for condenser	0700–209

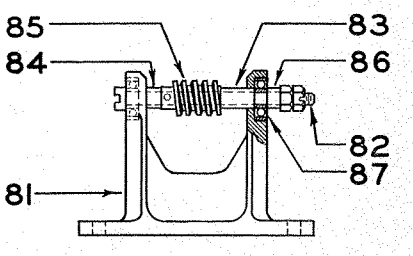
For breakdowns of References 33, 34R, 34L, 41, and 42 see following page.

Replacement Parts for Type 700 Mechanism

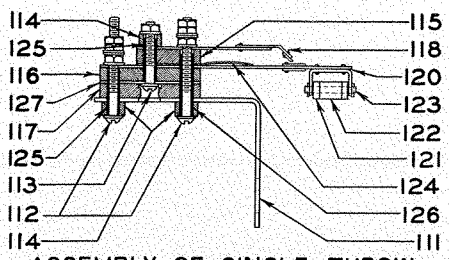
(Continued)



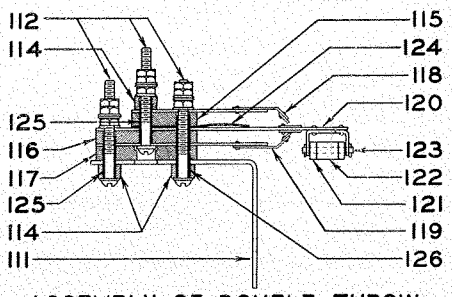
PLANETARY GEAR & BEARING
REFERENCE 34R OR 34L



WORM STAND ASSEMBLY
REFERENCE 33



ASSEMBLY OF SINGLE THROW
CUTOUT SWITCH - REFERENCE 41



ASSEMBLY OF DOUBLE THROW
CUTOUT SWITCH - REFERENCE 42

For ordering references see following page.

WESTERN RAILROAD SUPPLY COMPANY

Replacement Parts for Type 700 Mechanism

(Continued)

WORM STAND ASSEMBLY, PLANETARY GEAR AND BEARING ASSEMBLY, CUTOUT SWITCH ASSEMBLIES

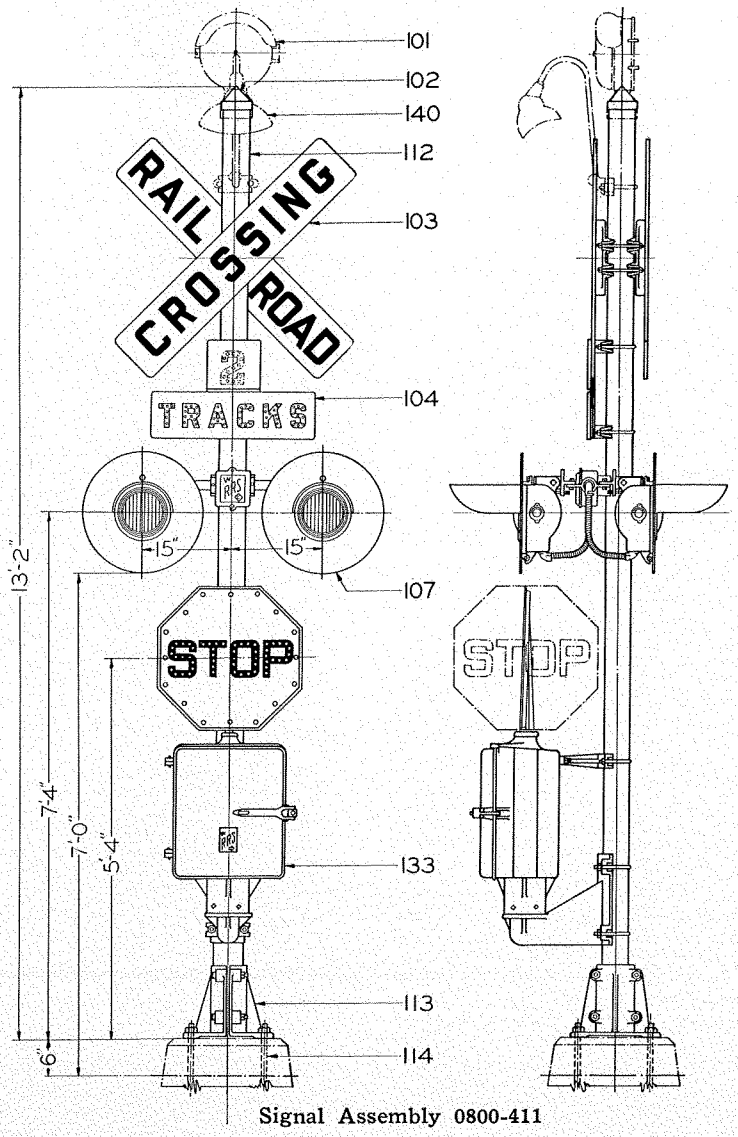
ORDERING REFERENCE

Specify Plate Number T30, Reference Number and Description

Ref. No.	Description	Piece No.
	Worm Stand Assembly (Ref. 33, Pl. T30)	
81	Worm bearing stand	0700–43
82	Worm shaft complete with pin, cotter pin and slotted nut	0700–290
83	Worm spacer (long)	0700–47
84	Worm spacer (short)	0700–47A
85	Worm complete with pin	0700–289
86	Worm shaft bushing	0700–46
87	Worm stand ball bearing	0700–543
	Planetary Gear and Bearing Assembly (Ref. 34, Pl. T30)	
91	Ratchet complete with bushing	0700–544
92	Ratchet Bushing	0700–116
93	Internal ring gear	0700–32
94	Intermediate gear	0700–31
95	Gear shaft	0700–11
96	Intermediate gear shaft with nut and lock washer	0700–72
57R	Sheave complete with bushing, for right hand operation	0700–545
97L	Sheave complete with bushing, for left hand operation	0700–546
98	Sheave bushing only	0700–9
99	Bearing block complete with bushing and oil cup	0700–232
100	Bearing bushing only	0700–33
101	Worm gear	0700–52
102	Worm gear key	
103	Leather bumper (Used on right hand operation signal only)	0700–66
104	Oil hole washer	0700–240
105	Chain fastening screw	0700–73
	Cutout Switch Assemblies (Ref. 41 and 42, Pl. T30)	
111	Mounting bracket for cam operated switch	0700–246
112	Binding post complete	
113	Machine screw with nut and washers	
114	Insulating washer	0700–256
115	Insulating block	0700–251
116	Insulating block	0700–252
117	Insulating block	0700–253
118	Upper contact	0700–248
119	Lower contact	0700–249
120	Movable contact complete with roller	0700–247
121	Roller spacer bushing	0700–263
122	Roller	0700–267
123	Roller shaft complete with cotter pins	0700–284
124	Reinforcing spring	0700–250
125	Insulating sleeve	0700–254
126	Insulating sleeve	0700–255
127	Filler plate	0700–283

Model 6 Rotating Disc Highway Crossing Signals

WITH TYPE 800 MECHANISM



Signal Assembly 0800-411

NOTE:

1—Signals will be furnished with 4″ I. D. pipe unless otherwise specified.
2—Dimensions shown can be varied to meet particular requirements.
3—For ordering reference see following page.
4—Longer masts and additional flashing light units can be furnished.
5—For detail parts see Plate T100.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Rotating Disc Highway Crossing Signals

WITH TYPE 800 MECHANISM

Signal Assembly 0800-411

Flashing Lights furnished with this signal assembly will be Type 880 for Two-Way Indication (four lamp units mounted on Type 865 Lamp Arm). Any other type of lamp assembly can be furnished if specified. (See Catalog Section D.)

Bell furnished with this signal assembly will be Type 222 if source of operating power is D.C.; Type 1203 Bell will be furnished if source is A.C. (See Catalog Section B.)

Banner furnished with this signal assembly will be Bureau of Public Roads Standard. (Yellow background, black letters and border, crystal reflector lenses in border, red lenses in word STOP.) (See Catalog Section H.) Any other type of disc with various wordings can be furnished.

THE FOLLOWING INFORMATION MUST BE SPECIFIED

1—Operating voltage, if D.C.; operating voltage and frequency, if A.C.

2—Voltage and wattage of lamps in flashing lights and floodlight.

3—Numeral required in Multiple Track Sign.

ORDERING REFERENCE

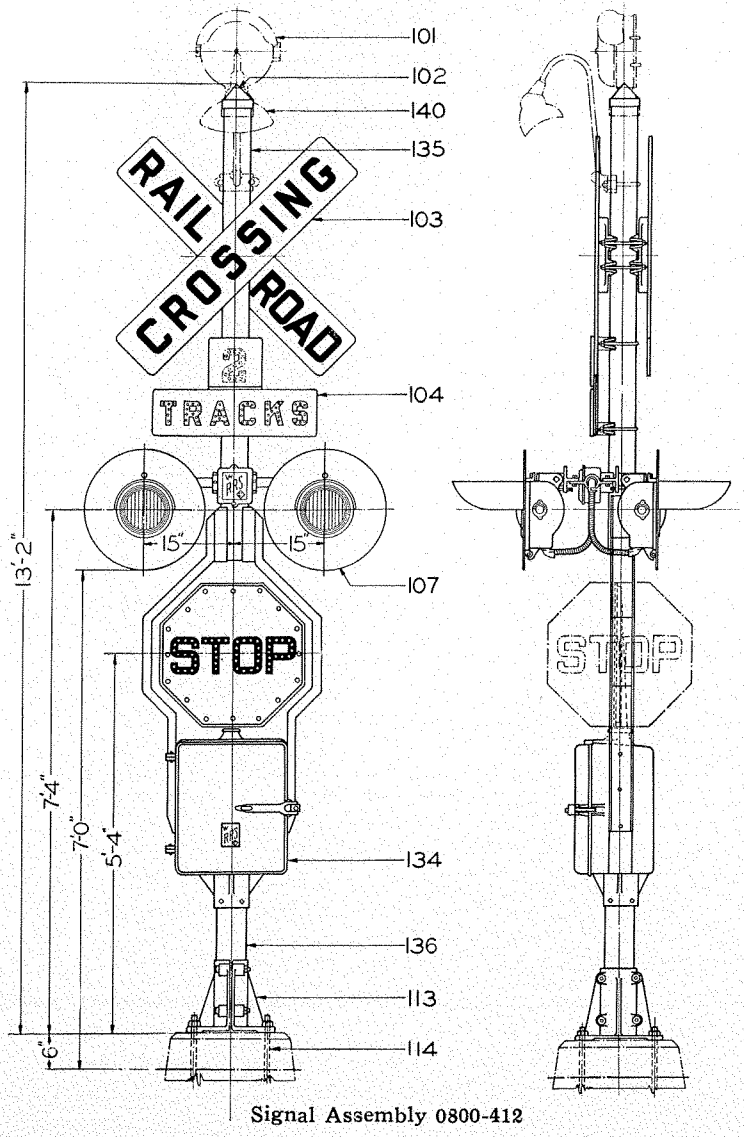
Specify Plate Number T50, Reference Number and Description
Description: Model 6 Type 800 Rotating Disc Signal 0800-411

Ref. No.	With or Without Bell	With or Without Floodlight	Type of Crossing Sign	Type of Track Sign
1	With	With	Cast Iron	Reflector
2	With	With	Cast Iron	Cast Iron
3	With	Without	Reflector	Reflector
4	With	Without	Reflector	Cast Iron
5	With	Without	Cast Iron	Reflector
6	With	Without	Cast Iron	Cast Iron
7	Without	With	Cast Iron	Reflector
8	Without	With	Cast Iron	Cast Iron
9	Without	Without	Reflector	Reflector
10	Without	Without	Reflector	Cast Iron
11	Without	Without	Cast Iron	Reflector
12	Without	Without	Cast Iron	Cast Iron

For detail parts of this signal assembly see Plate T100.

Model 6 Rotating Disc Highway Crossing Signal

WITH TYPE 800 MECHANISM



Signal Assembly 0800-412

NOTE:

1—Signals will be furnished with 5″ I. D. pipe at base and with 4″ I. D. pipe at top.

2—Dimensions shown can be varied to meet particular requirements.

3—For ordering reference see following page.

4—Longer top pipe mast and additional flashing light units can be furnished.

5—For detail parts see Plate T100.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Rotating Disc Highway Crossing Signals

WITH TYPE 800 MECHANISM

Signal Assembly 0800-412

Flashing Lights furnished with this signal assembly will be Type 880 for Two-Way Indication (four lamp units mounted on Type 865 Lamp Arm). Any other type of lamp assembly can be furnished if specified. (See Catalog Section D.)

Bell furnished with this signal assembly will be Type 222 if source of operating power is D.C.; Type 1203 Bell will be furnished if source is A.C. (See Catalog Section B.)

Banner furnished with this signal assembly will be Bureau of Public Roads Standard. (Yellow background, black letters and border, crystal reflector lenses in border, red lenses in word STOP.) (See Catalog Section H.) Any other type of disc with various wordings can be furnished.

THE FOLLOWING INFORMATION MUST BE SPECIFIED

1—Operating voltage, if D.C.; operating voltage and frequency, if A.C.

2—Voltage and wattage of lamps in flashing lights and floodlight.

3—Numeral required in Multiple Track Sign.

ORDERING REFERENCE

Specify Plate Number T55, Reference Number and Description
Description: Model 6 Type 800 Rotating Disc Signal 0800-412

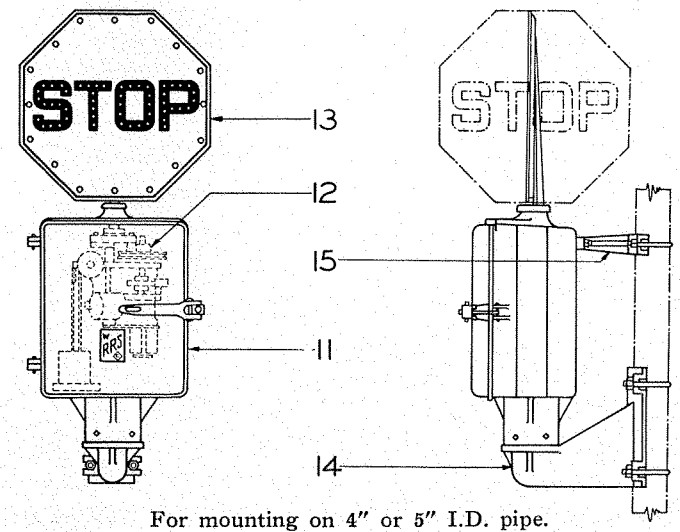
Ref. No.	With or Without Bell	With or Without Floodlight	Type of Crossing Sign	Type of Track Sign
1	With	With	Cast Iron	Reflector
2	With	With	Cast Iron	Cast Iron
3	With	Without	Reflector	Reflector
4	With	Without	Reflector	Cast Iron
5	With	Without	Cast Iron	Reflector
6	With	Without	Cast Iron	Cast Iron
7	Without	With	Cast Iron	Reflector
8	Without	With	Cast Iron	Cast Iron
9	Without	Without	Reflector	Reflector
10	Without	Without	Reflector	Cast Iron
11	Without	Without	Cast Iron	Reflector
12	Without	Without	Cast Iron	Cast Iron

For detail parts of this signal assembly see Plate T100.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Type 800 Assembly of Mechanism, Banner and Case

WITH GOOSENECK BRACKET FOR MOUNTING ON SIGNAL POLES



For mounting on 4″ or 5″ I.D. pipe.

ORDERING REFERENCE
Specify Plate Number T60, Reference Number and Description

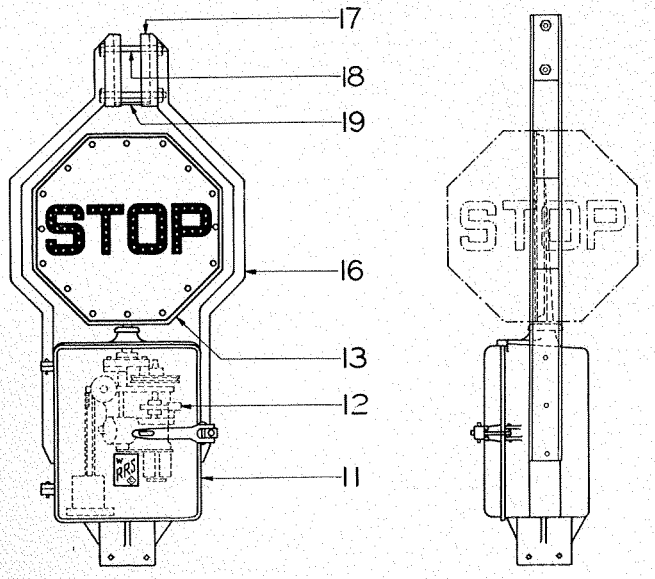
Ref. No.	Description	Piece No.
1	Type 800 Mechanism, Banner and Case Assembly complete with brackets for mounting on 4″ I.D. pipe for d.c. operation (Specify voltage)	0800–451
2	Type 800 Mechanism, Banner and Case Assembly complete with brackets for mounting on 4″ I.D. pipe for a.c. operation (Specify voltage and frequency)	0800–452
3	Type 800 Mechanism, Banner and Case Assembly complete with brackets for mounting on 5″ I.D. pipe for d.c. operation (Specify voltage)	0800–453
4	Type 800 Mechanism, Banner and Case Assembly complete with brackets for mounting on 5″ I.D. pipe for a.c. operation (Specify voltage and frequency)	0800–454
	Detail Parts	
11	Mechanism case with door (Socket is for 5″ I.D. pipe or 5½″ O.D. bracket)	0800–99
12	Mechanism complete for d.c. operation (Specify voltage)	0800–184
12a	Mechanism complete for a.c. operation (Specify voltage and frequency)	0800–183
13	Banner (Bureau of Public Roads Standard) complete with mounting fork	0700–201
13a	Double-faced assembly of banners and mounting fork (two banners mounted back to back)	0700–202
13b	Mounting fork only, for either Ref. 13 or 13a	0700–35
14	Gooseneck bracket complete with U-bolts for mounting on 4″ I.D. pipe	0700–200
14a	Gooseneck bracket complete with U-bolts for mounting on 5″ I.D. pipe	0700–200A
15	Brace bracket with U-bolt for mounting on 4″ I.D. pipe	0800–108
15a	Brace bracket with U-bolt for mounting on 5″ I.D. pipe	0800–108A

For replacement parts for mechanism see Plate T70.

WESTERN RAILROAD SUPPLY COMPANY

Model 6 Type 800 Assembly of Mechanism, Banner and Case

WITH CHANNEL IRON FRAMEWORK FOR PEDESTAL MOUNTING



Pipe mast clamps at top are for 4″ I.D. pipe.
Socket at bottom is for mounting on 5″ I.D. pipe.

ORDERING REFERENCE

Specify Plate Number T65, Reference Number and Description

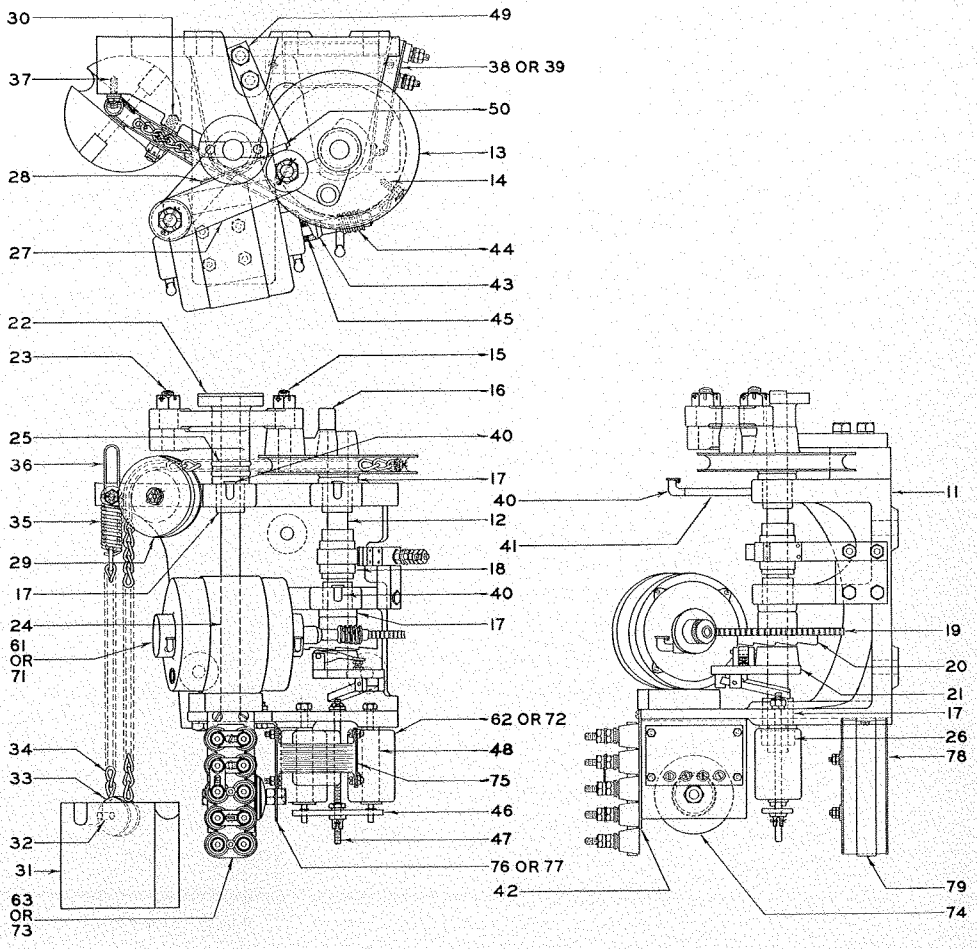
Ref. No.	Description	Piece No.
1	Type 800 Mechanism, Banner and Case Assembly complete with channel iron framework for mounting on 5″ I.D. pipe for d.c. operation (Specify voltage)	0800–461
2	Type 800 Mechanism, Banner and Case Assembly complete with channel iron framework for mounting on 5″ I.D. pipe for a.c. operation (Specify voltage and frequency)	0800–462
	Detail Parts	
11	Mechanism case with door (Socket is for 5″ I.D. pipe)	0800–101
12	Mechanism for d.c. operation (Specify voltage)	0800–184
12a	Mechanism for a.c. operation (Specify voltage and frequency)	0800–183
13	Banner (Bureau of Public Roads Standard) complete with mounting fork	0700–201
13a	Double-faced assembly of banners and mounting fork (two banners mounted back to back)	0700–202
13b	Mounting fork only, for either Ref. 13 or 13a	0700–35
16	Channel iron section for one side only (without drilling)	0800–536
17	Pipe mast clamp	0700–144
18	Through bolt with nut and washer	
19	Cover plate	0700–502

For replacement parts for mechanism see Plate T70.

WESTERN RAILROAD SUPPLY COMPANY

Replacement Parts for Type 800 Mechanism

For Type 800 Mechanism complete see Plate T60 or T65



Cut shows mechanism for A. C. operation but ordering references are given for both A. C. and D. C. mechanisms.

NOTE:

1—For ordering reference for mechanism complete see Plate T60 or T65.

2—For breakdown of Items 18, 21, 38 and 39 see second following page.

WESTERN RAILROAD SUPPLY COMPANY

Replacement Parts for Type 800 Mechanism

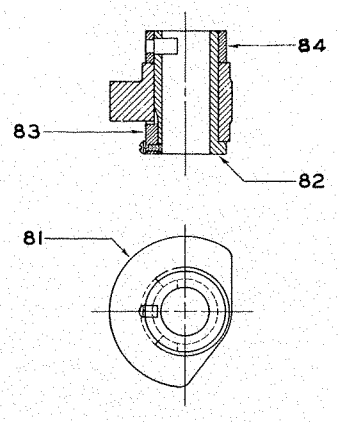
For Type 800 Mechanism Complete See Plate T60 or T65

ORDERING REFERENCE
Specify Plate Number T70, Reference Number and Description

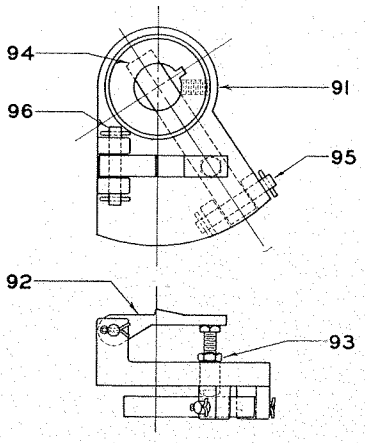
Ref. No.	Description	Piece No.
11	Mechanism frame complete with studs and bushings	0800–82
12	Drive shaft	0800–36
13	Driving pulley complete with studs and cotter pin	0800–137
14	Stud for holding chain to drive pulley, with slotted nut and cotter pin	0800–138
15	Stud for driving pulley with cotter pin	0800–136
16	Stop stud for driving pulley	0800–107
17	Bronze bearing	0800–39
18	Contact cam assembly (Includes References 81 to 84 inclusive)	0800–33
19	Worm gear	0800–35
20	Ratchet plate	0800–34
21	Ratchet mechanism assembly (Includes References 91 to 96 inclusive)	0800–77
22	Driven arm complete with stud and cotter pin	0800–139
23	Stud for driven arm with cotter pin	0800–140
24	Banner shaft	0800–37
25	Thrust bearing for banner shaft	0800–91
26	Collar for banner shaft	0800–38
27	Operating link complete with leather bumper and cotter pins	0800–141
28	Leather bumper for operating link	0800–55
29	Guide pulley complete with bearing	0800–73
30	Stud for holding guide pulley with cotter pin	0800–142
31	Weight	0800–17
32	Weight shaft	0800–42
33	Weight pulley complete with bearing	0800–74
34	Chain	0800–57
35	Spring	0800–56
36	Safety guide for spring	0800–58
37	Stud for holding spring with cotter pin	0800–143
38	Single throw cutout switch complete (Includes References 101 to 105 inclusive)	0800–134
39	Double throw cutout switch complete (Includes References 111 to 121 inclusive)	0800–135
40	Oil cup	
41	Oil tube	0800–54
42	Terminal support plate	0800–127
43	Spacer for worm drive	0800–60
44	Worm complete with pin	0700–289
45	Thrust bearing for worm drive	0800–92
46	Armature complete with adjusting nuts	0700–239
47	Stem for lifting rod complete	0800–144
48	Hold clear coil core	0800–66
49	Stop arm complete with leather bumper	0800–96
50	Leather bumper for stop arm	0800–95
61	D. C. motor with mounting base (Specify voltage) (Includes worm)	0800–87
62	Hold clear coils for D.C. mechanism (Includes pair) (Specify voltage)	0700–212
63	8-post terminal block	2506–14B
71	A. C. motor with mounting base (Specify voltage (Includes worm)	0800–86
72	Hold clear coils for A.C. mechanism (Includes pair) (Specify voltage)	0700–214
73	10-post terminal block	2506–15B
74	Rectifier element	0700–215
75	Transformer for rectifier unit (Specify voltage and frequency)	0800–132
76	Mounting bracket for 60 cycle rectifier unit	0800–128
77	Mounting bracket for 25 cycle rectifier unit	0800–129
78	Condenser for A.C. motor (Specify voltage and frequency of power supply)	0700–210
79	Condenser mounting bracket	0700–209

For breakdown of Items 18, 21, 38, and 39 see following page.

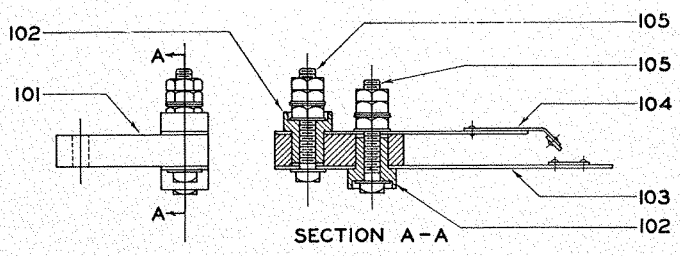
Replacement Parts for Type 800 Mechanism
(Continued)



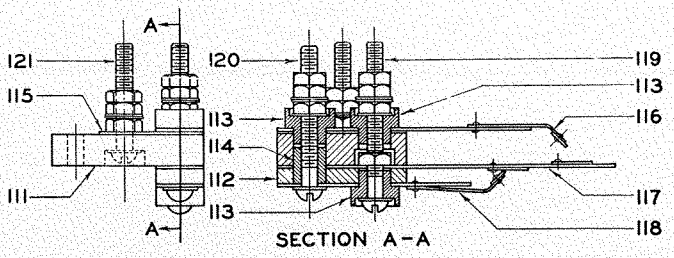
CONTACT CAM ASSEMBLY



RATCHET MECHANISM ASSEMBLY



SINGLE THROW CUTOUT SWITCH



DOUBLE THROW CUTOUT SWITCH

For ordering references see following page.

Replacement Parts for Type 800 Mechanism
(Continued)

ORDERING REFERENCE

Specify Plate Number T70, Reference Number and Description

Ref. No.	Description	Piece No.
81	Contact cam	0800–30
82	Bushing for contact cam	0800–29
83	Key for contact cam	0800–32
84	Collar for contact cam	0800–31
91	Pawl and arm carrying plate	0800–15
92	Ratchet pawl	0800–27
93	Actuating pin	0800–88
94	Intermediate lever	0800–28
95	Hinge pin complete with cotter pins for intermediate lever	0800–130
96	Hinge pin complete with cotter pins for ratchet pawl	0800–131
101	Contact support for single throw cutout switch	0800–22
102	Contact bushing	0800–23
103	Movable contact	0800–21
104	Upper contact	0800–117
105	Binding post complete	
111	Contact support for double throw cutout switch	0800–120
112	Insulating block	0800–121
113	Contact bushing	0800–124
114	Insulating sleeve	0800–123
115	Contact plate	0800–122
116	Upper contact	0800–118
117	Movable contact	0800–126
118	Lower contact	0800–119
119	Binding post complete	
120	Binding post complete	
121	Binding post complete	

WESTERN RAILROAD SUPPLY COMPANY

Detail Parts of Signal Assemblies

See Plates T10, T15, T50 and T55

Reference numbers listed below correspond to numbers shown on detail parts on crossing signal assemblies shown in this catalog section. For detailed information on assembly parts see other sections of this catalog, as follows:

Highway Crossing Bells; Section B.

Pinnacles and Bases; Section E.

Signs; Section H.

Lamp Arms and Crossing Signal Lamp Units; Section D.

All parts will be furnished for mounting on 4″ I.D. pipe unless otherwise specified.

ORDERING REFERENCE

Specify Plate Number T100, Reference Number and Description

Ref. No.	Description	Piece No.
101	Type 222 Highway Crossing Bell (Specify d.c. operating voltage)	222C
101a	Type 1203 Highway Crossing Bell (Specify a.c. operating voltage and frequency)	1203C
102	Pinnacle	110–6
103	A. A. R. Standard Cast Iron Crossing Sign	3320–14
103a	A. A. R. Standard Reflector Lens Crossing Sign	3380–2
104	A. A. R. Standard Cast Iron Multiple Track Sign (Specify numeral)	16442–14
104a	A. A. R. Standard Reflector Lens Multiple Track Sign (Specify numeral)	3368–2
107	Type 865 Lamp Arm with Four Type 818 Lamp Units for Two Way Indication (Specify voltage and wattage of lamps)	880–4
112	Pipe pole, 4″ I.D. by 12′ 10″ (Specify drilling)	
113	Type 2143 Split base for 4″ I.D. pipe (12″ c.c. bolt spacing)	2143
113a	Type 2145 Split base for 5″ I.D. pipe (12″ c.c. bolt spacing)	2145
114	Anchor bolt complete with nut and washer	
131	Type 700 Mechanism, Banner and Case Assembly (See Plate T20)	
132	Type 700 Mechanism, Banner and Case Assembly (See Plate T25)	
133	Type 800 Mechanism, Banner and Case Assembly (See Plate T60)	
134	Type 800 Mechanism, Banner and Case Assembly (See Plate T65)	
135	Pipe post, 4″ I.D. by 6′ 3¼″ (Specify drilling)	
136	Pipe post, 5″ I.D. (Specify for Type 700 or 800 Mechanism)	
140	Flood Light Assembly	2860

Note: Assembly drawings of special signal assemblies to meet particular requirements will be prepared and furnished on request.

Information Desired With Inquiry for Complete Highway Crossing Installation

We are pleased to furnish engineering information and to quote on requirements for Highway Crossing Installations. Where possible, inquiries should be accompanied with a sketch or, preferably, a scale track plan showing the location of the highway.

The following information is especially desired:

1—Specify type of crossing signal.
(A) Autoflag, (B) Flashing Light, (C) Rotating Disc, (D) Gates, (E) Is illuminated STOP sign wanted? (F) Is bell required? If so, one for crossing or one for each signal?

2—Specify length of approach section each side of crossing. (A. A. R. recommendation is 20 seconds warning for fastest train.)

3—If for double track road, specify if protection shall be provided for reverse traffic.

4—What special operating conditions exist within the area?

5—Specify whether there are any switches within the approach section.

6—Specify if there is any signal equipment now in place which might be affected by this installation.

7—Specify whether steam or electric propulsion railway.

8—What electric power is available for operation of signals? If D. C., specify voltage; if A. C., specify voltage and frequency.

9—Specify whether stand-by service is required. (Can continuity of service be depended upon?)

10—Specify weight and type of rail and whether four or six hole insulated rail joints.

11—Specify if track ballast is rock, gravel, sand, cinders, or other material.

12—Specify whether location of signals is to be at side or center of street. If for center of street, state whether or not pilot or marker lights are desired.

13—State whether highway is paved. Specify class of paving.

14—If for electric propulsion railway, specify what propulsion voltage is used, and whether A. C. or D. C. If A. C., specify frequency.

15—If for electric propulsion railway, state the normal and maximum return current in rails.

16—If for electric propulsion railway, specify if track circuit, trolley contact, magnetic inductor, or rail contact is desired.

Speed Table for Crossing Signal Starts

Seconds		10	15	20	25	30	35	40	45	50	55	60
Miles Per Hour	Feet Per Second	Distance Traveled in Feet										
1	1.46	14.6	22.0	29.3	36.6	44.0	51.3	58.6	66.0	73.3	80.6	88.0
2	2.93	29.3	44.0	58.6	73.3	88.0	102.6	117.3	132.0	146.6	161.3	176.0
3	4.4	44	66	88	110	132	154	176	198	220	242	264
4	5.86	58.6	88	117.3	146.6	176	205.3	334.6	264	293.3	322.6	352
5	7.3	73	110	147	183	220	257	293	330	367	403	440
10	14.6	146	220	293	366	440	513	587	660	733	807	880
15	22.0	220	330	440	550	660	770	880	990	1,100	1,210	1,320
20	29.3	293	440	587	733	880	1,027	1,173	1,320	1,467	1,613	1,760
25	36.7	367	550	733	917	1,100	1,283	1,467	1,650	1,833	2,017	2,200
30	44.0	440	660	880	1,100	1,320	1,540	1,760	1,980	2,200	2,420	2,640
35	51.3	513	770	1,027	1,283	1,540	1,797	2,053	2,310	2,567	2,823	3,080
40	58.7	587	880	1,173	1,467	1,760	2,053	2,347	2,640	2,933	3,227	3,520
45	66.0	660	990	1,320	1,650	1,980	2,310	2,640	2,970	3,300	3,630	3,960
50	73.3	733	1,100	1,467	1,833	2,200	2,567	2,933	3,300	3,667	4,033	4,400
55	80.7	807	1,210	1,613	2,017	2,420	2,833	3,227	3,630	4,033	4,437	4,840
60	88.0	880	1,320	1,760	2,200	2,640	3,080	3,520	3,960	4,400	4,840	5,280
65	95.3	953	1,430	1,907	2,383	2,860	3,337	3,813	4,290	4,767	5,243	5,720
70	102.7	1,027	1,540	2,053	2,567	3,080	3,593	4,107	4,620	5,133	5,647	6,160
75	110.0	1,100	1,650	2,200	2,750	3,300	3,850	4,400	4,590	5,500	6,056	6,600
80	117.3	1,173	1,760	2,347	2,933	3,520	4,107	4,693	5,280	5,867	6,453	7,040
85	124.7	1,247	1,870	2,493	3,117	3,740	4,363	4,987	5,610	6,233	6,875	7,480
90	132.0	1,320	1,980	2,640	3,300	3,960	4,620	5,280	5,940	6,600	7,260	7,920
95	139.3	1,393	2,090	2,787	3,483	4,180	4,877	5,573	6,270	6,967	7,663	8,360
100	146.7	1,467	2,200	2,933	3,667	4,400	5,133	5,867	6,600	7,333	8,067	8,800
105	154.0	1,540	2,310	3,080	3,850	4,620	5,390	6,160	6,930	7,700	8,470	9,240
110	161.3	1,613	2,420	3,227	4,033	4,840	5,647	6,453	7,260	8,067	8,873	9,680
115	168.6	1,686	2,530	3,373	4,217	5,060	5,903	6,747	7,590	8,434	9,277	10,120
120	176.0	1,760	2,640	3,520	4,400	5,280	6,160	7,040	7,920	8,800	9,680	10,560
125	183.3	1,833	2,750	3,667	4,583	5,500	6,417	7,334	8,250	9,167	10,084	11,000
130	190.7	1,907	2,860	3,813	4,767	5,720	6,673	7,627	8,580	9,534	10,487	11,440

NOTE: Where length of track circuit is known time in seconds can be determined by dividing its length in feet by "Feet Per Second" at train speed selected.

WESTERN RAILROAD SUPPLY COMPANY

Memoranda

5M-37

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